

# The Jamesway Hog Barn Book





# **The Jamesway Hog Barn Book**

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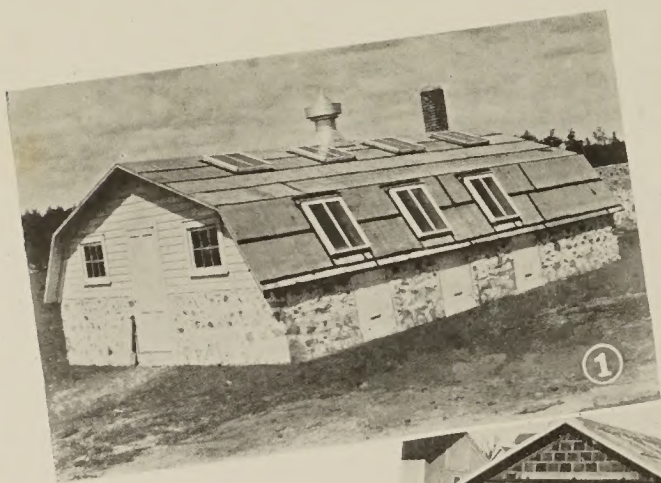
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1. James Sunny Hog Barn, Dr. Enoch Perry, Harsha, Wis.
2. Iowa Sunlit Hog House, Agricultural Experiment Station, Ames, Iowa.
3. Half Monitor Hog House, James Equipped, owned by the late Dr. Jenkin Lloyd Jones, Chicago.
4. Two Story Hog House, James Equipped, Carl Thompson, Oakland City, Ind.



# The Ideal Hog House

**H**OGS are grown for market on more farms than any other animal, and one might expect to find them, in view of their importance as money makers, the best housed of all the animals on the farm; but usually the opposite is the case.

Why the hog so often is not properly cared for, is hard to say; possibly it is due to the old time notion that "anything is good enough for a hog." Yet there is no animal on the farm which requires better protection from cold; none for which a good bed is more necessary; and none so much in need of sunshine as the little pig.

The horse and the cow have good coats of hair—even a calf or a colt when left in the cold is provided with a good fur coat; the hen's feathers are the best of protection against cold; but the hog has almost nothing between his skin and the weather.

One of the first requisites for success with hogs is a shelter where the young pigs can be kept warm and well supplied with sunshine and fresh air.

A little pig takes cold very easily and recovers slowly, if at all. To prevent taking cold, he must be kept dry, warm, away from drafts and provided with fresh air.

A dark barn means a damp barn; dampness makes chilliness; a chilled pig means an ill pig—and too often it means a killed pig.

The new born pig farrowed in January, February or March, must be properly housed or it will be unprofitable to attempt to raise early pigs.

With a good hog house, it becomes practicable to raise early pigs—and early pigs are worth while for several reasons. There is usually more time to care for them early in the spring; the early pigs are large enough to begin to eat as soon as pasture is ready and thus get the longest possible pasture season, making more pork from grass than is possible for later pigs; they can be kept on pasture until ready for market or nearly so; they can make more economical use of all feed because they can be finished for market before the cold weather of winter sets in when grains are more expensive; and usually the early pigs can be marketed at a time when prices are higher than can be obtained a little later.

(For the subject matter of this page and the following pages relating to the essentials of a hog house, we are indebted to the U. S. Department of Agriculture bulletin No. 438 and to the Iowa Experiment Station's bulletins on hog houses prepared by John M. Evvard, J. B. Davidson and W. G. Kayser. We have not quoted verbatim, but the facts and arguments set forth by them are unchanged.)



1. James Sunny Hog Barn, owned by Mrs. Mary Greek, DeKalb, Ill.
2. James Equipped Half Monitor Hog House of Walter L. Hill, Gladstone, Minn.
- 3, 4. James Equipped Hog Houses, Broadlawn Farm, Newtown Square, Pa.



And in addition to these advantages, the early pig makes possible raising two litters a year.

It is economy to put up first the buildings that will help most to make money. Most farmers recognize this and build a good barn before putting up a good house, saying "the barn will help build the house, but the house will never help build the barn." This principle seems to be lost sight of when it comes to the hog house, yet no other building pays for itself so quickly.

The hog house very frequently is the poorest building on the farm, and the least adapted to the purpose for which it was intended. Good barns may be seen on a large proportion of farms, but good hog houses are hard to find in most sections of the country.

It is said on excellent authority that good hog men average about seven pigs raised to the litter, and many surpass this record; but it is claimed that the general average raised on the farm does not exceed four pigs to the litter, and that this wide difference is very largely due to the housing.

This claim that the pig production of the country might almost be doubled if proper housing were universal is startling evidence of the need of careful study in the planning of the hog house before building. To aid in such careful study we present here the main points which the best authorities consider as

### The Essentials of an Ideal Hog House

(1) *Warmth*: Reasonably warm shelter, in season, with smallest ranges of temperature, is demanded by swine if best returns in health and profit are to be counted upon.

The newly farrowed pig especially demands protection. Early pig production is impossible without warm shelter. Stock hogs thrive best when they are not compelled to shiver from cold and thus burn up feed which would otherwise be converted into tissue. The wintering sow makes good use of a warm sleeping bed. In truth, all swine require reasonably warm shelter.

(2) *Dryness*: To expect thrift in damp, musty quarters is not logical. A dripping of condensed moisture from roof and walls is seriously objectionable. Masonry construction which provides for hollow air space commends itself. A dry floor and dry tight roof and walls are quite essential.

(3) *Abundance of light and direct sunlight*: Sunlight is the great and universal germ destroyer and kills disease-causing organisms. It promotes dryness, warmth and ventilation, thus bettering hygienic conditions.

Direct sunlight gives suckling pigs vigor and strength. Direct sunlight should strike part of the interior of the house at some time during the day;





Sunshine on the floor from early forenoon till late afternoon; good ventilation; warmth, easily cleaned; dry; convenient; can see into every pen. These are some of the advantages of The James Way in the Hog Barn.



and the pigs should be well sunned especially in the farrowing months of February, March and April. The forenoon sun has unusual value, coming as it does immediately after a relatively long, dark and sometimes cool and damp night so weakening to young and suckling pigs. Much general diffused light supplemented with direct sunlight is a happy combination.

(4) **Ventilation:** The hog demands an abundance of fresh, pure air which should be provided without subjecting him to injurious drafts. Summer coolness is dependent largely on good ventilation. The hog suffers much in a closely confined, ill-ventilated place because he is a productive animal that usually works at "top speed;" especially is this true when fattening, hence he needs an abundance of untainted oxygen for his bodily functions.

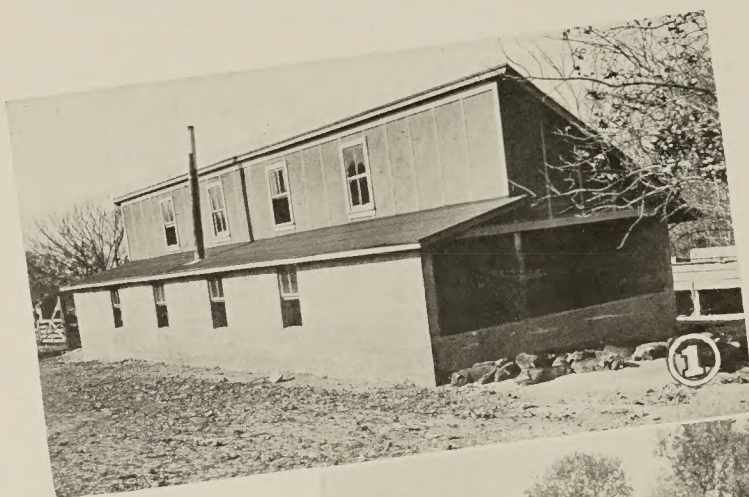
(5) **Sanitation:** The hog always breathes, eats and drinks close to the ground. To have everything conducive to cleanliness is correct in principle and in practice. The regular removal of litter and manure is important, and the more easily one can clean the house, the more likely it is to be clean. The building should be free from inaccessible cracks and openings, with smooth walls and floors so constructed as to make it easy to clean and, if necessary, disinfect the hog house thoroughly. (Masonry, tile, concrete and steel equipment offer superior sanitary advantages).

(6) **Safety and Comfort:** High door sills frequently cause abortion. Rough, uneven floors cause much discomfort particularly to the pregnant sow. Slippery floors result in many accidents. Narrow or low doorways through which swine must squeeze or crawl are objectionable. Fenders that save the lives of suckling pigs are quite indispensable.

(7) **Convenience:** The possibilities of arrangement which may lessen the time and labor required is to be kept uppermost in mind. Particular consideration is well given to suitable alleyways, doors and windows; abundant water supply and storage bins; adjustable ventilators and safety devices; handy litter carriers; feeding troughs; room for supplies and appliances, feed cooker, water heater, stove, sleeping cot, and so on; troughs arranged so as to be filled and cleaned with despatch without interference from hogs; and other details of construction and minor equipment which save steps and make the labor more productive, as well as easier.

(8) **Sufficient size to shelter advantageously:** Capacity should be consistent with the number, weight and class of hogs to be housed in the various seasons. To avoid over-crowding, have plenty of floor and overhead space; ventilation and comfort is thus promoted.

(9) **Durability:** In general that building giving the longest, continuous service is the most valuable. A house must withstand rain, wind, hail, snow, temperature and the daily wear and tear of actual usage so as to endure for the greatest term of years. Fireproof construction lessens risk.



1. Half Monitor Hog House, Manure Pit at End.  
2, 3, 4. Half Monitor Hog House, James Equipped, Bailey Comstock Co., Santa Rosa, Calif.



(10) *Reasonably low first cost:* This should be consistent with the service rendered.

(11) *Minimum cost of maintenance:* A maximum of satisfactory service for the lowest possible upkeep charge per animal per year is the ideal.

(12) *Pleasing appearance:* A satisfactory house harmonizes with its surroundings, is neat in architectural design and sensible in construction. In general, to add to, rather than detract from, the appearance of the farmstead should be the builder's ambition.

## The "Community" Hog House

Piggeries are of two general types, the large centralized house commonly called the "Community" hog house and the small individual movable hog houses.

The special advantages of the "Community" house are well presented in Bulletin No. 166 of the Iowa Experiment Station:

"(1) *Time and labor required are less:* Not so much energy and time is necessary because —

(a) Facilities for warming, feeding, watering, dipping, ringing, castrating, marking, breeding, weighing and administering medicine are more convenient if under one roof.

(b) The "sunning" of the quarters, especially during the season of early litters is done more quickly inasmuch as a number of houses do not have to be visited to see that the windows are not covered with snow or sleet, or otherwise obstructed.

(c) The artificial exercising of young pigs that are subject to thumps and kindred troubles is easily done in the community hog house alley, a number of litters being driven at the same time, this being in marked contrast to the more individualized effort necessary, practiced in the movable isolated house system.

(d) Ventilation is more readily controlled because but two or three, hardly more, ventilators within close range need to be visited.

(e) The exhibit to prospective buyers of promising pigs is more quickly made.

(f) The hitching of the horse to the feeding wagon twice or three times daily is dispensed with; it is a case of simply walking to the community house and "getting busy."

(g) With all the sows under one cover during the farrowing season, the efficiency of a unit of labor is increased.



James Equipped Hog Houses.

1. Bailey Comstock Co., Santa Rosa, Calif.
- 2 and 4. James Sunny Hog Barn of C. F. Bunte, Barrington, Ill.
3. Carl Thompson, Oakland City, Ind.



(h) There is no moving of a number of houses to take up one's time.

(i) The repairs and maintenance are more easily kept up in one big house on a permanent foundation, and within relatively easy reach (near the farmstead buildings), than in a number of small houses with somewhat unstable under-footings and generally widely scattered. Those who use the community hog house appreciate its convenience.

(2) *Durability Greater:* The permanent house has its evident advantages. Its years of service may be increased; it permits of masonry construction, so substantial and fireproof; its floor is practically unmovable, built in to stay; it has a solid foundation, absent in the movable type, all making for a greater substantiality. Heavy winds, soaking rains, driving hail, deep snows and extreme temperatures are more easily withstood in that the structure is naturally tighter and better built generally. The havoc-wrecking tornado is not so likely to tear the masonry, or even the wooden community permanent house from its foundation and supports, as in the case of the more movable type of structure.

(3) *Lighting from Direct and Diffuse Sunlight More Practically Arranged:* The direct sunshine is usually more practically secured in the large house because of the better natural advantages of greater height, wider and longer dimensions, and bigger roof. Greater provision can also be made for indirect lighting, inasmuch as the type of construction permits of this with comparative ease and safety. At best it is more difficult, because of the extra manipulation of doors and windows, to flood the small house with as much light in proportion to the interior as in the more ideal community type.

(4) *Ventilation may be More Systematic:* The ventilators are easily adjustable. The principles of successful ventilation are more easily introduced in the larger type inasmuch as there is greater opportunity for air ducts and flues. The overhead space is larger in proportion to the occupants' live weight, thus requiring a less frequent changing of air.

(5) *Close Attention to the Herd Quite Possible:* Vigilant attention is of prime importance at crucial times, such as at farrowings; with sows under one roof this becomes easy and practical. It is impossible to attend closely a number of farrowing sows scattered widely in separate houses.

(6) *Herdsmen Experiences a Minimum of Exposure:* The swine-man does his work largely indoors and is independent to a considerable extent of weather conditions, as he is under water-tight cover and surrounded by warm protective walls. In the busy farrowing season the caretaker may sleep in the general office room, or near to the stove, and thus be on hand for emergencies; this without undue exposure in frequent nightly visits to a number of outlying individual houses.

(7) *Feed Storage, Water Supply and General Rooms Very Practical:* The great convenience of indoor feed bins and water taps is clear. A mixing room equipped with soaking, heating and cooking devices near to the feeding alley is easily possible.

The general office and sleeping room appeals to many. The scales for weighing may be placed in the work room or in the alley, and likewise shelves may be built to hold all of the small equipment and medicines necessary. The hurdles and troughs, breeding crates, ringing chutes, self-feeders, automatic waterers and so on may be stored with satisfaction. Storage, water and general conveniences requiring sheltered space are impractical in small movable houses.

(8) *Sanitation may be Encouraged:* Substantial, smooth, vermin-proof masonry construction is standard in the real permanent community house. With smooth floors made of clay block, covered with an inch to an inch and a half layer of concrete, the cleaning of the house is greatly facilitated and encouraged.

The inaccessible cracks that harbor lice, mange, and other parasites may thus be eliminated with all their attendant ills. The open-cracked wooden floor and walls in the movable, and sometimes in the community type, are objectionable.

The sanitary disposal of liquid waste through a sanitary drainage system commends itself; this is made possible by the permanent location and justifies the expense necessary for a permanent sewage system.

Manurial litter is removed to the fields more easily, hence it is more likely to be done; the litter carrier, which may be easily installed, also encourages the removal of wastes.

Then, too, the large house being more accessible, encourages more frequent attention to sanitation. With a concrete approach on the entrance door side of the house there is less probability of mud and filth being carried into the nest than where the doors open directly on to the earth's natural surface.

The wide progressive band of continuous sunlight that sweeps its way across the entire interior commends itself to those who are seeking solution of the swine house sanitation problem. The flood of diffuse light that pervades every nook and corner needs to be recalled for emphasis sake.

(9) *Vermin may be Eliminated:* Rats, mice and other pestiferous animals need to be discouraged. Concrete or clay block construction not practical with the movable type, discourages the corn eating rodents. Concrete, or a combination of concrete and hollow clay block floors, rightly built, keep out all vermin.

(10) *Site Selection Simple:* One site may be picked quite easily, whereas several may be chosen with difficulty; in reality, there is usually one



best site on every farm, and this may be occupied by one permanent house but hardly with a large number of movable ones.

(11) *May be More Serviceable:* Will house the large cattle and horses in addition to the smaller animals, if necessary, at times. The small house cannot very well shelter the cow or horse because the small entrance doors and low roof prohibit it.

(12) *Heating the House is Comparatively Easy:* Uniform heating is convenient inasmuch as a single stove will be sufficient in houses of ordinary size. The troublesome attention necessary when many lanterns or small heaters, as well as ventilators, are to be looked after, is self-evident. A large supply of fuel may be gathered under cover for a considerable period. The permanent house properly built is naturally warmer in that the wind does not carry under the floor and thus induce drafts; of course, with the movable type the floors may be banked to exclude the wind, but banking is more practical when done to one house than to many.

(13) *Common Feeding Floor and Water Wallow More Likely to be Used:* With the permanent house a central, community feeding floor is more likely to be built inasmuch as the question of location is somewhat simplified because of the permanence of the structure.

(14) *Dangers Less than with Large Numbers of Houses in Common Yard:* The huddling and piling up which is oftentimes a bugbear when several small movable houses are used together is largely avoided in the warm, permanent house of large capacity.

(15) *Provides Headquarters for the Swine Farm Operations:* The community house is a general center for all activities; as a distributing point it has manifest advantages. The office in some community houses serves as an excellent place to do clerical and other inside work. It is well to have a general building that serves as a pivot around which all operations revolve.

(16) *Fire and Other Risks may be Minimized:* Cement or clay block in the construction of walls and floors is most highly recommended, and together with such material as asbestos roofing decrease the fire and other general risks. This all means low insurance — lower than is possible with temporary wooden structures.

Sometimes, however, some of these very good fireproof features, such as the tile or slate roof, are too costly to include.

The efficient small house to date, movable though it is and easily isolated, is built largely of readily burnable wood. The case of the metal hog house, although somewhat fireproof, is such that its conductivity, lightness, and lack of substantiality discourages its successful use in housing swine. Of course, small houses, not movable, can be built of masonry.

(17) *Grouped Swine Become Better Acquainted:* A number of swine kept in a community house with open partitions separating them learn to know each other quite well, and thus when they are turned together there is less quarreling; the opposite is true with isolated swine, especially sows; they oftentimes cause severe injuries, loss of flesh and sometimes death in their preliminary fighting, which seems to be a necessary prelude to their becoming acquainted.

(18) *Makes Possible Adjustable Pens:* The removable partitions may be so manipulated as to throw the entire house into one large pen; or, different combinations of the units may be made, such as making two, or three, or four pens into one.

(19) *Advertising Value Greater:* The impressiveness of the large, permanent, centralized community house is not easily offset. A large, roomy, well-lighted house, equipped with durable and up-to-date convenient fixtures, somehow appeals to the average man more forcefully than the smaller house, no matter how ingeniously built.

(20) *Complements the Movable House:* A complete, symmetrical system of housing is made possible by the happy combination of the community and movable types; one reciprocally adds to the other sufficiently to make a rather perfect whole. Provision for all ordinary emergencies is made in that system of housing whereby the community is supplemented by houses of the movable type."

There are three general types of community hog houses:

## The South Window Type

(1) A one-story building placed East and West with windows on the South. Sometimes this is merely of a shed construction with one row of pens; sometimes what is known as a half Monitor type with one row of pens getting the light from South windows above as illustrated on page 15; or with rows of pens, one row being lighted by the upper windows, the other by the lower.



Cross Section

This type of house became standard because it had certain recognized points of merit which commended themselves to swine producers.

When the windows are placed at the right height, direct sunlight will shine into both rows of pens for some time during the day. It is, however, necessary to have the windows placed exactly right, depending on the size of the pens, the exact date sunlight is required, and the latitude, if this type of house is to render satisfactory service.



It has the further advantage that the use of vertical windows does not admit an excessive amount of sunlight during the summer months. This



Half Monitor Hog House of F. H. Boyle, Fond du Lac, Wis. James Designed and James Equipped.

advantage is of minor importance since the hogs are in the barn but little during the daytime in the hot season.

This type of hog barn has a serious disadvantage in that a large amount of space must be enclosed for no other purpose than to provide sufficient sunlight. The ceiling is high (14' or more) making the building difficult to heat. Then, too, portions of the interior never come under the influence of direct sunlight, as for instance part of the floor near the South wall.

The special advantage of this type of hog house — that of getting sunlight into both rows of pens at the same time is provided to an even greater extent in the James Sunny Hog Barn; and the James Sunny Hog Barn has many advantages not found in the half Monitor type.

## Iowa Sunlit Hog House

(2) The Iowa Sunlit Hog House has two distinguishing features:

(a) The locating of the windows in the roof, furnishing direct sunlight to all parts of the house. (b) Low walls used with the idea of reducing the cost of construction; and also making the building easier to heat.

The low height of the building is made possible by the transfer of the windows from the walls to the roof; the side walls may be as low as 4' or 4½',

although usually built 5' 2" high. The hog does not need a high ceiling and therefore the walls need only to be high enough to be convenient for the attendant.

In order that the sun may shine through the roof windows from early morning till evening requires that this type of house extend North and South; although when necessity demands that the house be built so as to have the long axis East and West, the construction may be modified by placing two rows of skylight windows on the half of the roof exposed to the South.



Cross Section of Iowa Sunlit Hog House



When Placed East and West, Two Rows of Windows are Used in South Roof.

The windows extend in a continuous row from one end of the house to the other, making it possible for absolutely all of the floor, not merely a portion, to come under the influence of direct sunlight sometime during the day. Rarely, in the usual construction, does the direct sunlight from a window cover more than a very small portion of the floor surface in its travel across the floor during a day.

With this type of house the sun does not shine in both rows of pens at the same time.

The sunlight in the early days of March at Ames, Iowa, (longitude 93 West, latitude 42 North) is on the floor of the West pens from about 9 o'clock until nearly 1 o'clock with direct sunlight shining into the East pens for a corresponding period in the afternoon.



Iowa Sunlit Hog House at Ames, Iowa.



Although the sunlight does not fall in both rows of pens at the same time, nevertheless the house is so thoroughly filled with a flood of light as to make living conditions highly satisfactory.

One of the most effective sanitary agents is direct sunlight and it is for this reason that so much emphasis is placed upon sunlight in describing this type of house.

The windows placed as they are would be subject to breakage from hail, but it is an easy matter to protect them by placing over them screen of  $\frac{1}{2}$ " mesh, or smaller. Frequency of hail storms in any particular locality will determine the advisability of using such protective screens.

That sunlight is an important factor in a hog house has been fully demonstrated by the use of this construction. Without exception, the users of this type of house are enthusiastic about the results obtained with the early spring litters. Sunlight unquestionably has an invigorating effect upon young pigs.

In a well-lighted house such as this, the number of pigs killed from their mothers lying upon them is reduced to a minimum. At the Iowa Agricultural Experiment Station the number of pigs saved, per litter, has been increased since the introduction of the sunlit house.

Experience has also demonstrated that the loss of heat during the night with this method of lighting is not excessive although the skylight windows give off more heat than material having a greater insulating value. It has been found that this possible objection has little weight.



Iowa Sunlit Hog House, Council Hill Farm, Red Oak, Okla.



With the James Steel Pens, 70% of the sunshine falling on the panels reaches the pen floor; with wooden pens, only 20% gets to the floor.



## The James Sunny Hog Barn

(3) The James Sunny Hog Barn, although a modification of the Iowa Sunlit type, has certain additional, distinctive claims that entitle it to be classed as a separate type of hog barn.

(a) The arrangement of windows is such that every pen in the barn has its spot of sunshine and sun warmth (not in the West row only, nor in the East row only, but in every pen) for many hours during the middle of the day.

(b) The side windows admit the direct sunlight to the floor of the pens much earlier in the day than the windows near the ridge, thus direct sunlight strikes the West pens earlier in the day and the East pens later in the afternoon than in the Sunlit type of house.



A James Sunny hog barn at latitude 42 would, on March 21, give sunshine on the pen floors for 9 hours and 40 minutes.

As soon as the sun's rays in the morning are 7 degrees from the horizontal the sun begins to shine on the floors of the West pens.

At longitude 90, latitude 42, on March 21, this would be about 7:10 A. M.

In the afternoon the sunshine would leave the floor of the East row of pens when the sun's rays reach 7 degrees from the horizontal. At latitude, longitude and date given above this would be about 4:50 P. M.

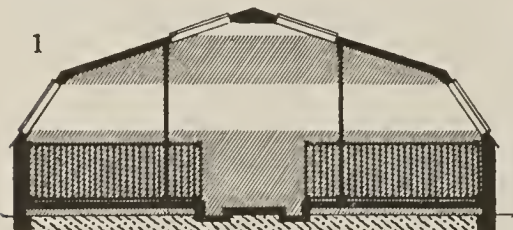
In the forenoon when the sun's rays are at an angle of about 30 degrees from the horizontal the spots of sunshine and sun warmth will be on the floors of every pen in the barn; and will continue to shine on the floor of every pen in the barn until the sun's rays in the afternoon reach the angle of 30 degrees from the horizontal.

The James Sunny hog barn, therefore, not only furnishes sunlight on the pen floors for more hours during the day, but for a number of hours during the middle of the day there is a spot of sunshine and sun warmth in every pen.

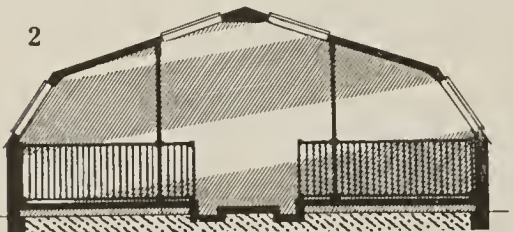
(Continued to Page 22)

## The James Sunny Hog Barn Lets the Sun Shine In

1. The first rays of the rising sun strike the ceiling on the west side and then sweeping down the west wall, bathes it in sunshine.

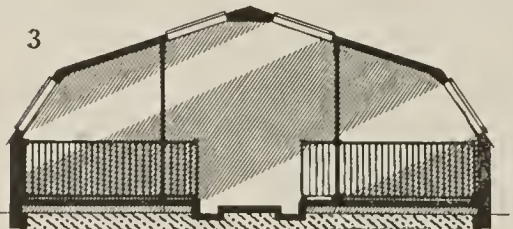


2. If the barn is placed northwest to southeast, spots of sunshine and sun-warmth begin to appear on the floors in the west pens, as soon as the sun's rays



fall at an angle of  $7^\circ$  from the horizontal. At latitude 42, longitude 90, March 21st for example, this would be at 7:10 A. M.

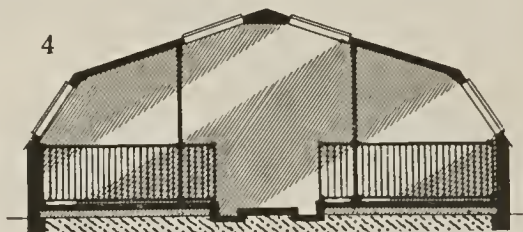
If the barn is placed north and south, the sunshine on the floor begins when the



sun's rays are  $10^\circ 8' 0''$  from the horizontal. At latitude 42, longitude 90, March 21st, this would be at 7:45 A. M.

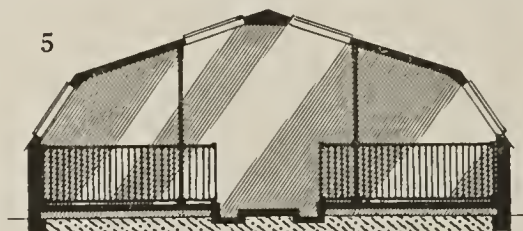
3. From the time the sun shines first upon the floor until a similar hour in the afternoon, there are spots of sun in one row of pens, or the other, or both, except for a very few moments at the point shown in figures 3 and 11.

4



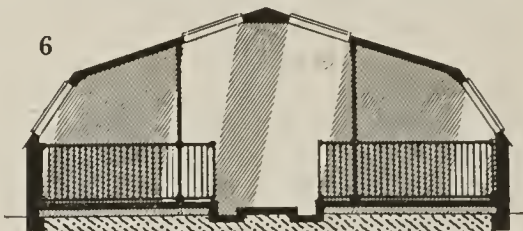
4. When the sun's rays are about  $30^\circ$  from the horizontal, as shown in figure 4, there is a spot of sunshine in every pen in the barn, if south end windows are provided.

5



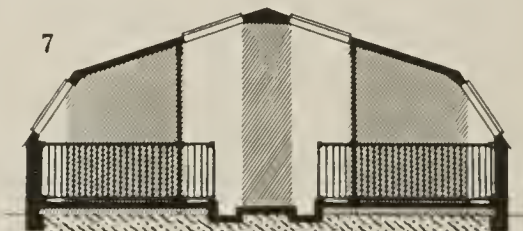
(See Fig. 14.) This continues until the sun's rays reach a similar angle in the afternoon (Fig. 10). For about two-

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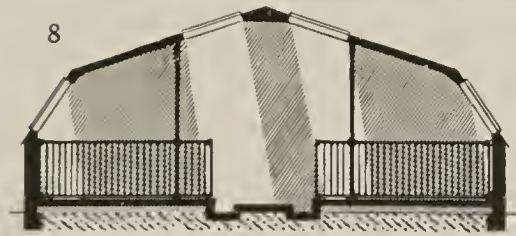


thirds of the time, therefore, between sunrise and sunset, regardless of latitude, longitude or date, there is sunshine on the floor of every pen in a Jamesway Sunny Hog Barn.

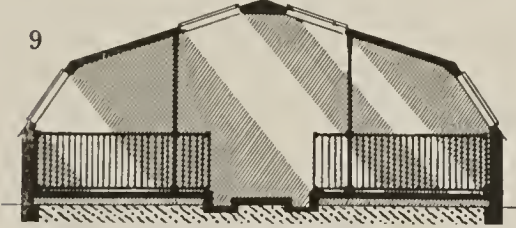
7



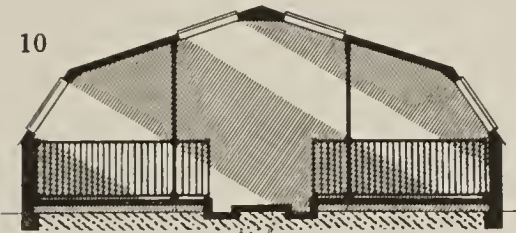




5. At this point, two spots of sunshine appear in the west pens.



6. As the sun approaches the meridian, the west wall gets another sun bath, through the west side windows.



7. At the meridian, two sun spots appear in every pen.

8. As the sun leaves the meridian, the east wall gets sunshine through the east side windows.

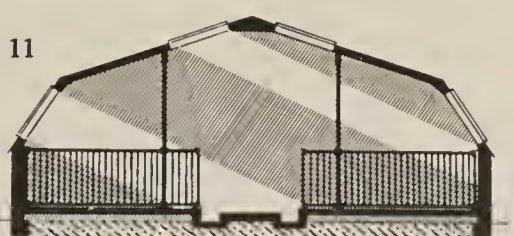
9. Two spots of sunshine in each east pen.

10. See paragraph 4.

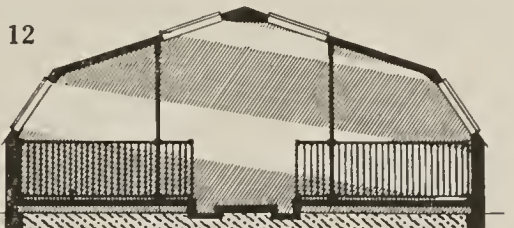
11. See paragraph 3.

12. When the barn is placed northwest and southeast, the sunshine does not leave the floors of the last pens until the sun rays are within 7 degrees of the horizontal (which is at sunset). If located north to south, this occurs when the rays are  $10^{\circ} 8' 0''$  from the horizontal.

At latitude 42, longitude 90, March 21st, for example, this would be at 4:50 P. M. and 4:15 P. M., respectively.

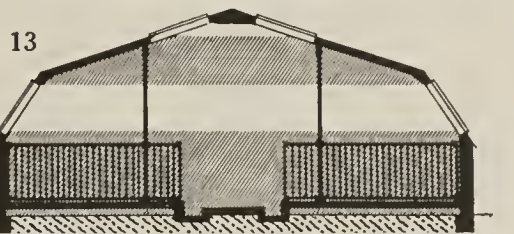


For about seven-eighths of the time between sunrise and sunset, the sun can

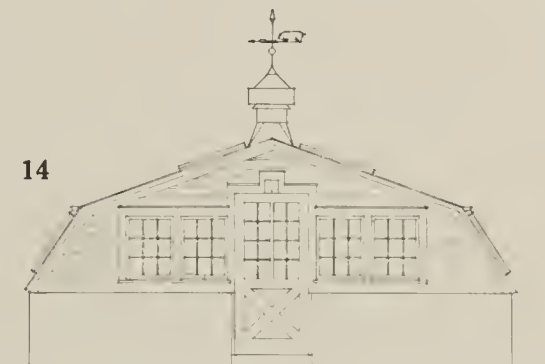


shine upon pen floors in the James Sunny Hog Barn.

13. Sun's rays horizontal at sunset.



14. Arrangement of windows recommended for south end, to insure as much sunlight in pens next the south wall, as in the other parts of the barn.



If the barn is so placed that its long axis is from North to South, the sun's rays begin to reach the pen floors (and leave the pen floors in the afternoon) when the sun's rays are 10 degrees, 8 minutes from the horizontal. Thus, at latitude 42, longitude 90, March 21, the sunshine first reaches the pen floors about 7:45 A. M. and leaves about 4:15 P. M., a period of 8 hours, 30 minutes.

The hour at which the sun's rays first reach the pen floors and leave the pen floors varies according to latitude, longitude and date. In a general way, however, one can figure that with the James Way Sunny hog barn located Northwest and Southeast, sunshine will fall on the pen floors 90 per cent. (if North and South 85 per cent.) of the time between sunrise and sunset.

For approximately two-thirds of the time between sunrise and sunset, there will be a spot of sunshine and sun warmth in every pen in the barn.

(c) The low wall ( $3' 2\frac{3}{4}''$ ) effects greater economy of material.

(d) The lower height of ceiling ( $10' 2''$  maximum) makes the building easy to heat. The gambrel construction provides a low ceiling, yet at the same time gives sufficient head room near the wall.

(e) The design of the roof is such that no crossties are required which interfere with the sun's rays. All the sunshine which passes through the windows is left free to do its work excepting for shadows cast by the pens.

It is important to note that pens constructed of wood in the usual way, stop 80% of the sunlight which falls upon the pen panels. With the James sanitary steel pens, only 30% of the sunlight falling upon the panels is lost.

With the wooden pens, not more than 20% of the sunlight falling upon the panel reaches the pen floor; with the James steel pen 70% is effective.

(f) Better ventilation. The lower windows can be tilted, if desired, allowing a flow of air to pass through the building. The windows are high enough so the drafts will be above and not directly on the animals.

(g) Pleasing appearance.

THE JAMES SUNNY HOG BARN IS THE IDEAL HOG BARN. Thus, it will be seen that the James Sunny Hog Barn fulfills better than any other type, the requirements of the ideal building for the purpose -- warmth, dryness, abundance of light and direct sunlight, ventilation, sanitation, safety and comfort, convenience, durability, reasonably low first cost, minimum cost of maintenance, and pleasing appearance.

## Sunny Hog Barn Plans Free

Details of construction are not given in this book, but we shall be glad to furnish stock blue prints free to anyone who contemplates building. In asking for the blue prints, please inform us whether you are planning to use a litter carrier, whether you have in mind installing steel or wood pens, the approximate size of pens you desire, and number of pens, in order that we may supply you with blue prints most nearly corresponding with the barn you want to build.



## James Steel Hog Pens

The James sanitary steel hog pen *lets the sunshine in*.

The old-style wooden pen keeps most of the sunshine out.

In the pictures on page 18, 80% of the sunshine which falls upon the wood front panel is kept out of the pen by the wide boards; but with the James steel pen panel only 30% is lost.

The James steel panel allows three times as much sunshine to pass into the pens and reach the pen floor; and unless sunshine reaches the pen floor it does but little good.

With tile, cement or cork brick floors; cement tile or masonry walls; and James steel pens and James labor-saving equipment, it becomes an easy matter to keep the hog barn clean.

In wood pens, there are millions of tiny crevices to catch and hold dust and germs. Wood is difficult to clean. The smooth surfaces of James pens are easy to clean — are easy to disinfect, if that is necessary.

James pens aid the little pigs in their development by letting the sunshine in and by improving ventilation.

They cut down labor bills, both in feeding the pigs and in cleaning the barn.

The pen floors are always drier with James pens than with wooden pens, because the sunlight has access to every square foot of floor space, and because the steel pen interferes least with proper circulation of air.

It is a noticeable fact that in a James equipped hog barn the hogs seem much more contented than ordinarily, because of their ability to see about. It is also possible for the attendant to see into every pen from any part of the barn. (Note picture on page 6.)

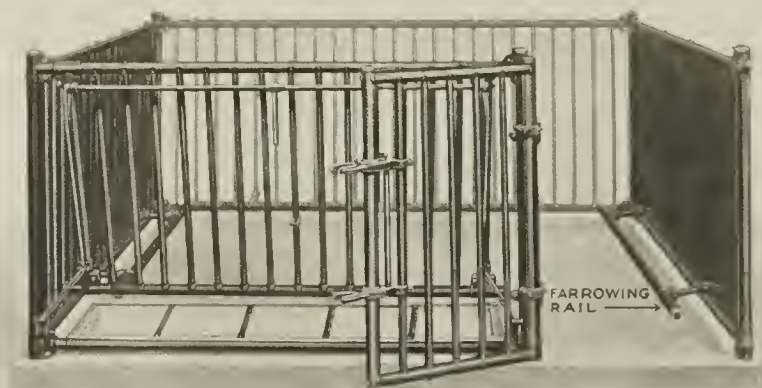
James steel pens are durable, the first cost being the only cost, whereas wooden pens rot out in time, necessitating the replacing of the entire outfit and in the end costing more than the steel.

James pens are pleasing in appearance and a source of lifetime satisfaction to the purchaser.

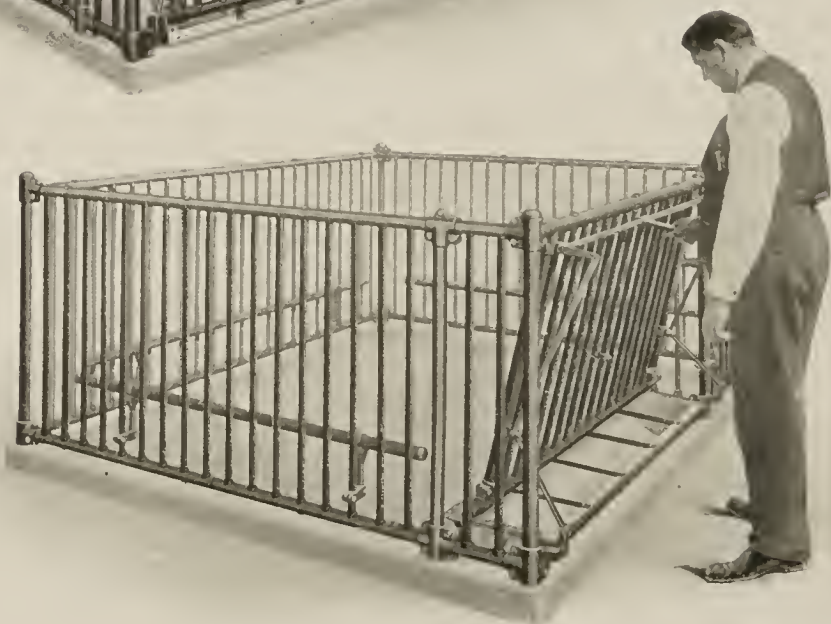
## The Pig Fenders

Too much stress cannot be placed upon the importance of pig fenders.

When the sow lies down, the fenders will prevent her from crushing the little pigs against the wall; they will simply be shoved under this rail and be protected in the space between the rail and the panel. They can then run around to the front side of the mother.



James  
Sanitary  
Hog  
Pens





The pig fender should be 8" above the floor and the same distance from the panel, and should extend around three sides of the pen. It is not needed in front because of the feed trough.

The James pig fender may be swung up out of the way after the little pigs are able to take care of themselves, and the fender is no longer needed. Lifting the pig fender transforms the pen into a very satisfactory feeding pen.

## The Swinging Panel

The swinging front panel will appeal to every man who has ever taken an active part in hog feeding. It does away with any need of straddling the fence and kicking the old sow in the ribs, at the same time trying to keep the little pigs away from the trough, while attempting to pour in the liquids.

An ingenious device makes it possible to swing the panel, by means of a lever at the front of the pen. This is shown in the illustration, page 24.

The front panel is equipped with a latch for holding the trough up out of the way when not in use; when in this position the trough drains itself and will be kept free from dirt, and easily flushed clean with water.

The panels between pens are so constructed that they may be swung up and locked out of the way, thus turning two or more pens into one larger pen.

**THE PIG STOP:** A small panel is provided at end of the trough to serve as a pig stop.

## Tilting Trough

The trough is of a peculiar design which prevents trouble from liquids in the trough freezing; with the sloping sides the contents rise as it freezes.

The shape of the trough also allows the pigs to get every bit of the contents; at the same time the trough will drain very easily.

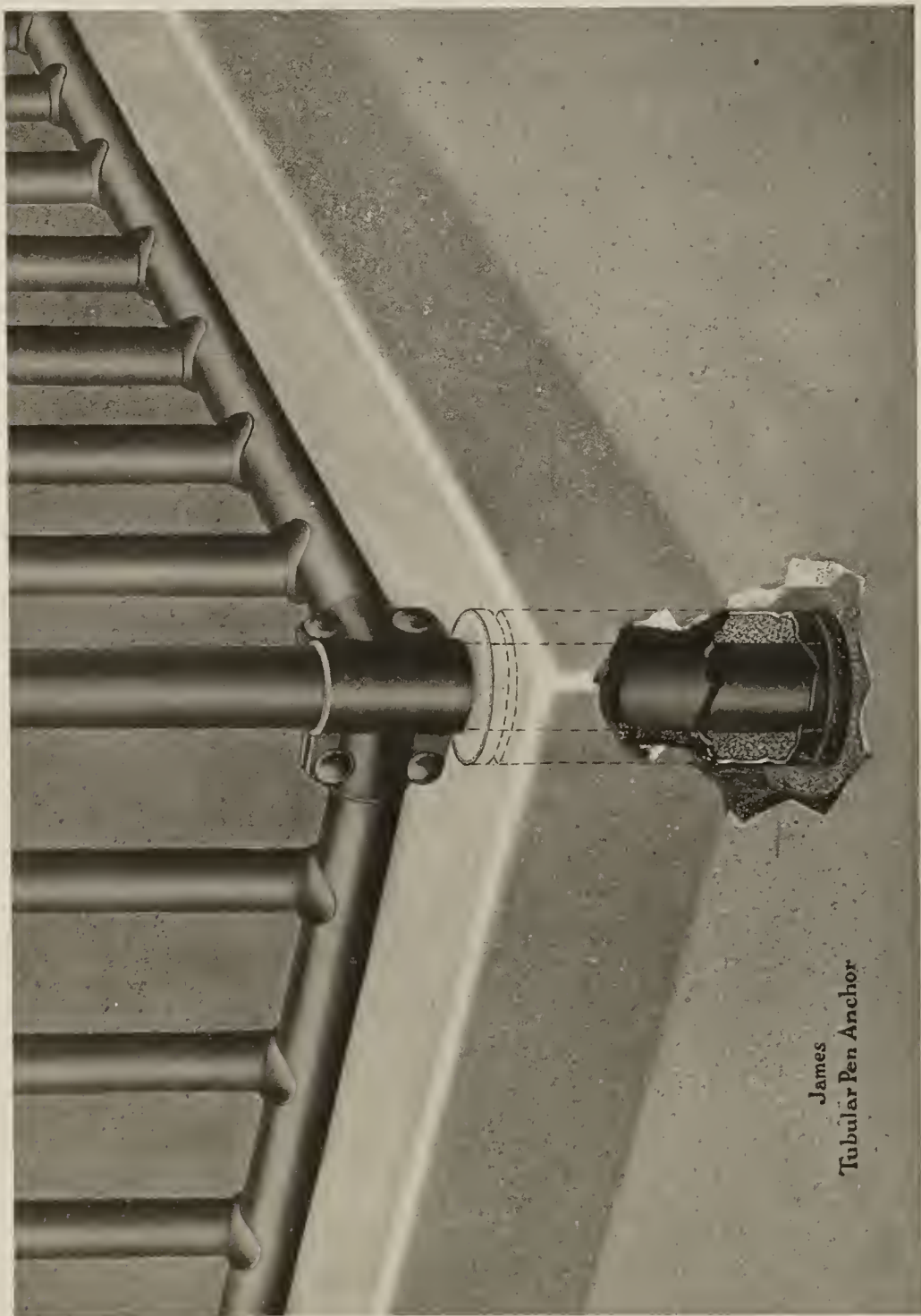
When the trough is tilted, it gives the hogs that much more room in the pen and makes it easier to clean the floor.

Like all James goods, the hog trough is of unusually strong construction and should last as long as the pen.

This new swinging panel, together with the James pig fender and the tilting feed trough are the biggest improvements ever made on a hog pen.

## Pen Construction

The corner posts, the gate posts, and on exceptionally long panels, intermediate posts, extend through the concrete curb and into the solid floor; these posts support the panels and are spaced no farther apart than 9'.



James  
Tubular Pen Anchor



The uprights are held securely to the horizontals at the top and bottom by heavy malleable inserts with flanges which fit into ends of uprights and into holes drilled in the horizontals, making a smooth, neat panel that is easy to keep clean. The panels are bolted together by  $\frac{7}{16}$ " special bolts, spaced seven spindles apart. All bolts used are heavy cut thread bolts — the most expensive kind, but which can be depended upon to hold.

## James Pens are Easy to Set Up

The James pens are most easily erected. They are shipped from the factory all ready assembled in panels, the gates being shipped already built.

To erect the pen, all that is necessary is to set the corner, intermediate and gate posts in the tubular anchors (which will have already been placed in the concrete curb) bolt the panel to the posts; and fill the tubular anchors with cement. As soon as this cement sets your pen is solid.

This method effects a great saving in the cost of erection. The anchors are the only part of the pens required to be on the ground at the time the concrete work is done. The contractor can go right ahead finishing the cement work and the pens may be set up at any time later when most convenient.

This method makes erection of James pens so easy that even a boy could do the work and it does away with the possibility of delays in cementing the floors. You do not need to await the arrival of the pens before proceeding with the concrete work.

James pen anchors may be secured on short notice, either from Fort Atkinson, Minneapolis or Elmira, New York; Wright Ziegler Company, Boston, the De Laval Dairy Supply Company, San Francisco; or some other nearby distributing point.

## Size of Pens

James hog pens are built any size required. The average farrowing pen called for is 8' 6" by 9' 6", and this size is looked upon as standard. The size of the pens, of course, will vary with the personal preference of the purchaser according to his individual needs.

The nesting place in the pen should be about 5' 6" by 7' in a standard pen. Either cork brick or plank should be used for the nest. Some seem to think that the sow will not always take the nest, but as a rule this is the case only when the attendant has been careless in bedding. If the nest only is bedded the sow will lie there.



James Sanitary Hog Pen  
(PATENT APPLIED FOR)



# James Sanitary Hog Pen

(PATENT APPLIED FOR)

## SPECIFICATIONS

CORNER POSTS:  $1\frac{7}{8}$  in. O. D. pipe. Used with James Pen Anchors.

GATE POSTS:  $1\frac{7}{8}$  in. O. D. double strength pipe. Used with James Tubular Pen Anchors.

INTERMEDIATE POSTS:  $1\frac{5}{8}$  in. O. D. pipe. Used with James Tubular Pen Anchors.

PANEL HORIZONTALS:  $1\frac{5}{8}$  in. O. D. pipe. Top and bottom horizontals bolted together with  $\frac{7}{16}$  in. cut thread bolts, spaced not more than three spindles apart.

PANEL UPRIGHTS:  $1\frac{1}{16}$  in. O. D. pipe spaced 4 inches on centers.

ANCHORS: James Tubular Pen Anchors  $3\frac{1}{2}$  in. O. D. pipe, 9 in. long. Made of 24-gauge steel. Pen anchors are the only part of the pen required at the time the concrete work is done.

FITTINGS: Best annealed malleable.  $\frac{7}{16}$  in. cut thread bolts used with fittings for attaching panels to posts.

ORNAMENTS: Best malleable, dust proof type.

GATE: Frame of  $1\frac{5}{8}$  in. O. D. pipe with  $1\frac{1}{16}$  in. O. D. pipe uprights. All fittings of best malleable. Hinges are offset so that gate swings back against pen; of best malleable.

GATE LOCK: Best malleable. Double latch connected by  $\frac{3}{8}$  in. square steel rod enclosed in  $1\frac{1}{16}$  in. pipe. Gate locks when slammed shut; can be opened only by hand, it being necessary to raise the lever and turn. Cannot be opened by the hog. Simple, positive in action, strong.

FINISH: The steel is first mechanically cleaned, removing scale, grease and foreign matter, then followed with a chemical bath, thoroughly preparing the material for painting; it is then finished with the best gray protective enamel, baked for two hours at a high temperature.

HEIGHT: With 4 in. curb, pen is 3 feet 8 inches from the floor.

WEIGHT: 25 lbs. per linear foot.

SHIPPED ASSEMBLED IN PANELS

## Swinging Panels

(PATENT APPLIED FOR)

FRONT PANEL: Horizontals of  $1\frac{5}{8}$  in. O. D. pipe, uprights  $1\frac{1}{16}$  in. O. D. pipe. Hinge and all fittings malleable with cut thread bolts. Swinging mechanism best malleable and bar steel.

PIG STOP: Of  $1\frac{5}{8}$  in. and  $1\frac{1}{16}$  in. O. D. pipe, best malleable fittings and cut thread bolts.

DIVIDING PANEL: Panels dividing pens are so constructed that when desired, they may be swung up and locked out of the way, thus turning two or more pens into one larger pen.

## Farrowing Rail

(PATENT APPLIED FOR)

Made of  $1\frac{5}{8}$  in. O. D. pipe; hinge and rail brace of best malleable.

## Tilting Feed Trough

(PATENT APPLIED FOR)

Trough is of 18-gauge galvanized sheet steel; ends are locked seamed with reinforcing plates on corners; angle iron dividers across the trough at intervals of 12 inches, riveted to the galvanized sheets. Furnished with device for holding trough down; and device for holding trough when raised.



$1\frac{7}{8}$ " O. D.



$1\frac{7}{8}$ " O. D.  
Double Strength



$1\frac{5}{8}$ " O. D.



$1\frac{1}{16}$ " O. D.

Exact sizes of pipe used



## Concrete Feed Trough

The James Sanitary hog pen is also furnished with a solid front panel for use over a concrete feed trough, when the swinging panel and tilting feed trough is not used.

Specifications are the same as given on page 29.

## The James Carriers

**W**HEN hog raising is made a business, methods for saving work and time become of great importance, not only to reduce expenses, but to make it possible to do whatever is required to benefit the animals.

Hogs are more liable to infection from unsanitary surroundings than other farm animals, being so constituted that they must breathe and drink close to the ground or floor where infection is most likely to be found.

The old way of caring for swine discouraged the regular and frequent removal of litter and manure, and promoted unsanitary conditions.

The James Way makes it so easy to clean the barn — even a boy can do the job — that the barn can easily be kept clean at all times; and because of the ease of cleaning it will be kept clean.

With the James carrier, the manure can be loaded onto the spreader and put on the fields at once, the carrier making it possible to get the manure onto the soil with but the one handling — that of loading the tub in the barn.

That is somewhat different, is it not, from loading the manure into a wheelbarrow, pushing it out through the barn, leaving a trail of dripping filth — across a mucky yard and up onto a manure pile, trying the strength and patience of the strongest man; afterwards loading the wagon from the pile, losing the liquid; then hauling it to the field, dumping in piles and later scattering with a fork?

The big tub of the James carrier holds as much as three or four wheelbarrow loads; the carrier can be run out and dumped in less time than a single wheelbarrow; and it takes no longer to load the manure into the carrier than it does into the wheelbarrow. The saving of time and work is very large.

When the wheelbarrow method is used, the manure is quite apt to be piled near the barn. But with the James carrier and crane, or with the James Combination carrier, it is easy to put the pile far away so there will be no fumes of ammonia rising near the building which will injure the health of the animals or damage the paint. You can keep a clear space between the barn and the pile or manure pit.

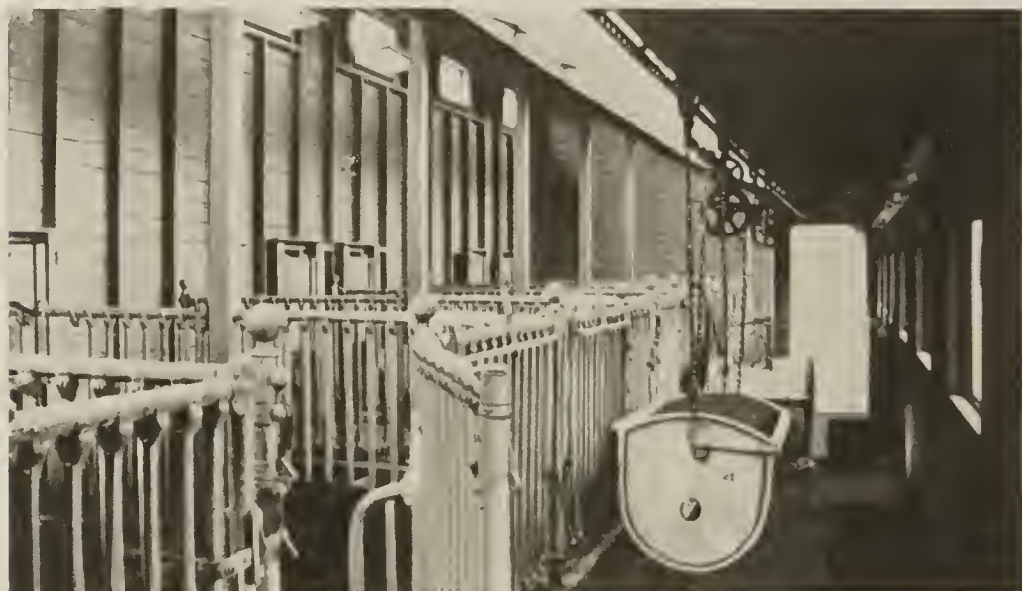
Where the use of swill forms part of the hog feeding operations, the James swill carrier solves many difficulties. It not only saves work, but it eliminates much of the bother and trouble. This, together with the swinging panel over the trough, puts an end to the nuisance of feeding swill.

The James feed carrier, or the James feed truck, will save you so much walking back and forth to the feed room and save so much work and time, that you will wonder how you ever got along without them.





James Carrier and Swinging Craue in James Sunny Hog Barn of T. K. Maher, farm at Elyria, Ohio.



James Carrier in Hog House of Bailey Comstock Co., Santa Rosa, Calif.

We claim for all James Carriers that with them you can do the work for which they are intended more quickly, more easily, and at less daily cost, than you can in any other way. And if they don't make good, you can get your money back.

The James Carriers have many important and distinctive features, not only in the carrier itself, but in the track, hangers, switches, removable track section and swinging steel crane.

All the objections to the ordinary carriers are completely overcome; and in addition the James Carriers possess added improvements never before utilized in carrier equipment.

They are not an experiment. The men who originated them and brought them to their present state of perfection know from experience just what is required of a carrier, for they have been practical, successful farmers themselves, and have used, or seen in use, probably every carrier on the market.

James Carriers are the result of long years of observation of the various types in actual use in barns, where the strong points and the weak features have been shown up by the wear and strain of daily use.

The strong points have been retained and new features added, making them the most practical, most serviceable and most satisfactory of all.

A litter carrier has heavy work to do. Not only must it oftentimes carry a quarter ton of manure, but it is in daily use throughout much of the year. Slammed about by careless help, or in the hurry of cleaning up the chores, some part will give way unless it be exceptionally strong and well made.

James Litter Carriers are more strongly and heavily built than any other on the market, every part is heavy enough to carry three times the load to which it will ever be subjected as a manure carrier. The track and hangers, the safety switches, the removable sections, and the swinging crane all have several times the strength necessary to support the carrier when most heavily loaded. No amount of ordinary rough usage will cause a breakdown.

James Carriers are much heavier than others for which you would have to pay the same price; the extra weight of malleables and steel alone costs us several dollars more on a carrier, to say nothing of the better workmanship and superior finish. Yet we offer them to you for the same price that you would have to pay for the lighter weight and more poorly constructed outfit.

This extra weight means heavier malleables, a stronger angle iron framework through the tub, steel plate reinforcement on the ends, a solid, cold rolled, steel shaft—in fact greater strength at every point where strain or wear may come. It insures durability, a saving of repairs, and makes certain satisfactory service for a long period of years.



James Swill Carrier and James Pens in James Sunny Hog Barn of T. K. Maher, farm at Elyria, Ohio.



The simplicity of the entire James Carrier outfit also makes for greater strength and durability, the extra weight of material being only at those points where strength is needed; and there are no complicated parts to wear.

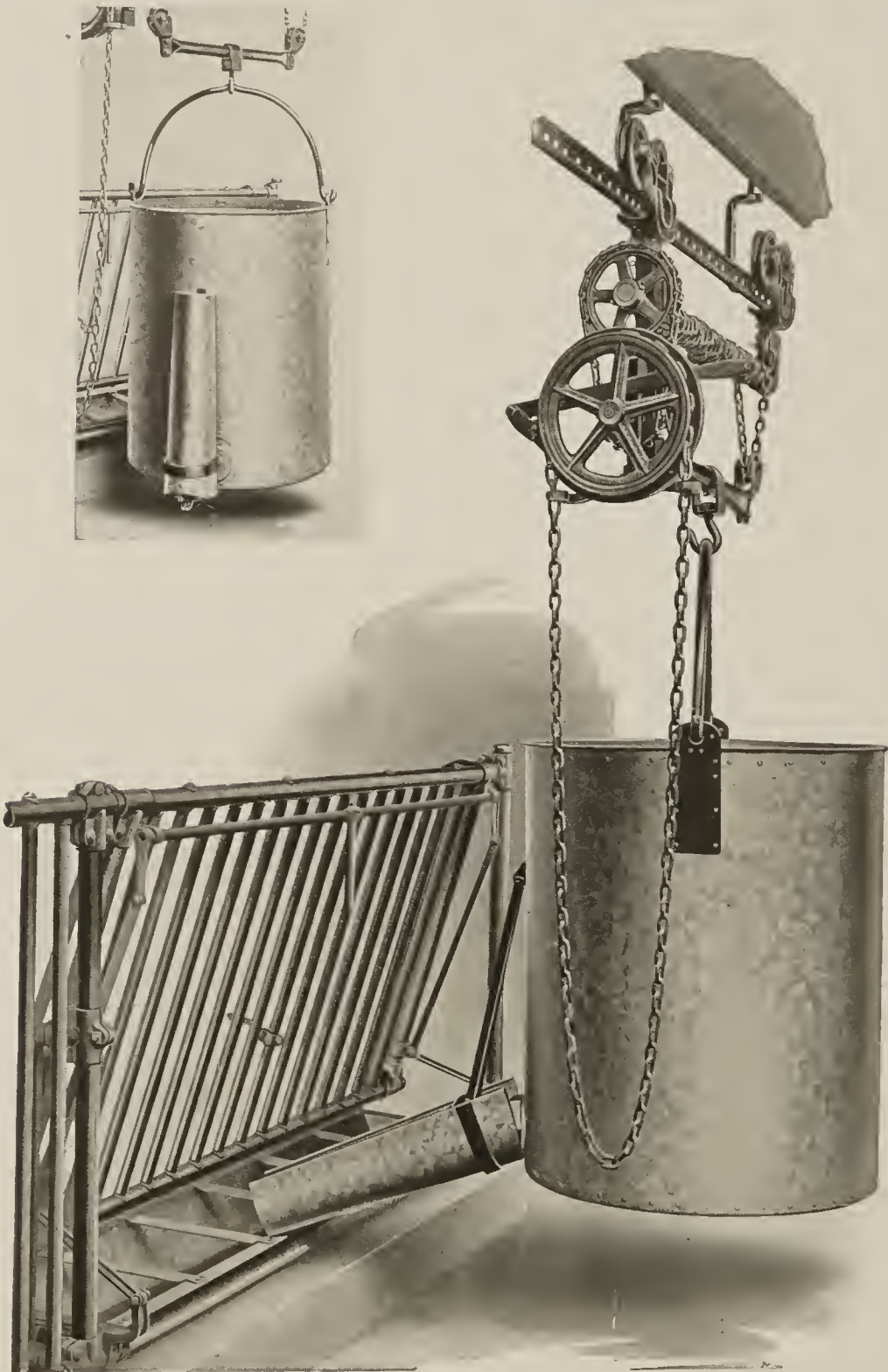
In the following pages we have described the carriers in detail, and we want you to note that in each case we have stated the exact weight and given complete specifications, so that you may compare for yourself our carriers and those offered you by others at equal or higher prices.

The photographs and descriptions show why it is that James Carriers are more easily erected and more easily operated than any others; why they run more smoothly on the track; how they meet every condition ever required of a carrier in the barn; why the I-Beam track is more suitable in every way for curves, switches and outside work; how the automatic safety stop blocks make it impossible for a carrier to run off the track; and how the simple construction eliminates worm gearings, ratchets and cogs that are so liable to wear or break.

And as you study the carrier proposition, we ask that you bear in mind that while there may be carrier outfits offered you at lower prices, the James Carriers are so built as to cost you by far the *least per year*—and that is the only fair way in which to figure the cost of any article.

James Carriers are “long life” carriers—built to stand the strain and wear of years—made to forestall breakages and repairs—made to save the maximum of work and time. We are proud of them, believing that each is the best that can be built to meet the specific purposes for which it is designed. And in this belief, we are backed up by the hundreds of enthusiastic, commendatory letters received from owners of James Carrier outfits.

“The Swill Carrier arrived on the 12th. It is very satisfactory and a great time saver.” Hardwick Bros., Fort Worth, Texas.



James Swill Carrier

## James Swill Carrier

### SPECIFICATIONS

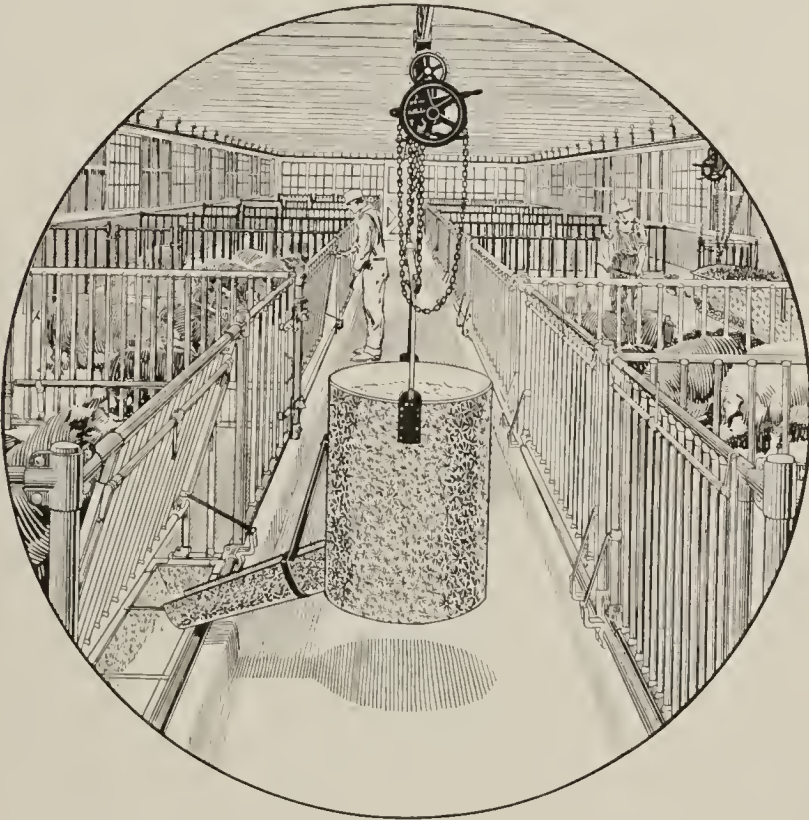
Capacity of can 70 gallons.

Outside dimensions 28 inches diameter by 32 inches high.

The can is constructed of 18-gauge galvanized steel, lock seamed and well riveted to a framework of angle and channel iron. The top is reinforced with  $\frac{7}{8}$ -in. x  $1\frac{3}{8}$ -in. x  $\frac{1}{8}$ -in. angle iron, bottom rim with a  $1\frac{1}{2}$ -in. x  $\frac{3}{4}$ -in. x  $\frac{1}{8}$ -in. channel iron. Two pieces of  $1\frac{1}{4}$ -in. x  $1\frac{1}{4}$ -in. x  $\frac{3}{16}$ -in. tee iron is placed horizontally under bottom sheet, well riveted to channel, giving great supporting strength. A heavy galvanized collar is riveted and soldered to the can and fitted with a 3-in. gate.

Bail hangers are heavy galvanized steel plate riveted to barrel with 20 sherrardized rivets; seams and rivet heads are well soldered on inside.

HOIST: The Big Boy hoist is furnished (see page 54) fitted with extra strong pipe, swivel and hook, allowing swill to be delivered on either side of feeding alley.







# The "Big Boy" Litter Carrier

(PATENTED)

## SPECIFICATIONS

**TUB:** Constructed of eighteen-gauge galvanized sheet steel, built on a framework of angle iron; angle iron at side edges being  $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$  in.; at the ends  $\frac{7}{8} \times 1\frac{3}{8} \times \frac{1}{8}$  in.; end of tub reinforced with steel plate  $4\frac{1}{2} \times \frac{1}{8}$  in. Well riveted, all rivets sherardized and are  $\frac{3}{16}$  in., except corner rivets, which are  $\frac{1}{4}$  in. Gudgeon support is riveted to the two thicknesses of steel on end of tub. Tub is self-cleaning. See page 58.

**PERFECT CONTROL CLUTCH AND BRAKE:** Of malleable and bar steel. For explanation of operation see page 55.

**HOIST:** Chain and sprocket type. Made of best iron and steel. The frame carrying the lower sprocket is adjustable to take up the slack, thus making it possible to overcome any wear. So geared as to make possible the raising of heavy loads in the shortest time without undue effort. (See page 55.)

**CHAIN GUIDES:** Malleable. Prevent hand chain running off the hoist wheel.

**SHAFT:** Of  $1\frac{1}{4}$ -in. cold rolled solid steel shafting, same as used in factories for line shafting. (Page 59.)

**LIFTING CHAIN:** Heavy straight link chain, tested for five times the load it will have to carry. Three point suspension: in winding up forms an open spiral, preventing rubbing and wear. (Page 59.)

The distance from the top of the tracker wheels to the bottom of the Big Boy No. 2 Tub when raised is 44 inches; when lowered to full length of lifting chain the distance is 8 feet 8 inches.

**TRACKER WHEELS:** Made of gray iron;  $4\frac{3}{4}$  in. in diameter, mounted in swiveled tracker wheel frames. Travelers arranged tandem. Tracker wheel axle of steel with oil pocket; journal machined and surfaced. (See page 57.)

**TRACKER WHEEL FRAME:** So constructed that wheels cannot jump the track. May be removed only by hand. (Page 57.)

**LATCH AND TRIP:** Latches at each end of tub lock and unlock simultaneously. Protected against clogging with manure. Latch trip operated from either end.

**BAIL HANGERS:** Heavy flat steel bars  $\frac{5}{16} \times 1\frac{1}{2}$  in., edgewise to the tub. Malleable fittings and sheave.

**BEARINGS:** All bearings that get much wear in operation are machined to assure accurate fit and smooth surface; this reduces friction, lessens wear, increases ease of operation and adds greatly to life of carrier. Bearings that are left merely cored, as they come from the foundry, are covered with sand roughness, which cuts into metal like so much emery. Hence the great importance of machined bearings.

**CAPACITY:** Tub is 45 in. long, 24 in. deep, 24 in. wide, and holds approximately 12 bushels coarse manure.

**WEIGHT:** Approximately 200 pounds.





# The James Feed Car

(PATENTED)

## SPECIFICATIONS

**TUB:** Constructed of selected lumber; bottom and ends 20-gauge galvanized steel, the design making it easy to shovel. Corners bound with corner iron.

**SIZE:** Extreme length 68 inches, width 26 inches, height 24 inches.

**PERFECT CONTROL CLUTCH AND BRAKE:** Of malleable and bar steel. For explanation of operation see page 58.

**HOIST:** Chain and sprocket type. Made of the best iron and steel. The frame carrying the lower sprocket is adjustable to take up the slack, thus making it possible to overcome any wear. So geared as to make possible the raising of heavy loads in the shortest time without undue effort. (See page 55.)

**CHAIN GUIDES:** Malleable. Prevent hand chains running off the hoist wheel.

**SHAFT:** Of 1¼-in. cold rolled solid steel shafting, same as used in factories for line shafting. (Page 59.)

**LIFTING CHAIN:** Heavy straight link chain, tested for five times the load it will have to carry. Three point suspension; in winding up forms an open spiral preventing rubbing and wear. (Page 59.)  
Distance from top of track wheels to the bottom of the tub, when raised, is 54½ inches.

**TRACKER WHEELS:** Made of gray iron; 4¾ in. in diameter mounted in swiveled tracker wheel frames. Travelers arranged tandem. Tracker wheel axle of steel with oil pocket; journal machined and surfaced. (See page 57.)

**TRACKER WHEEL FRAME:** So constructed that wheels cannot jump the track. May be removed only by hand. (Page 57.)

**BAIL:** Heavy channel steel. Extends nearly to bottom of tub. So shaped as to permit the greatest freedom when shoveling.

**BEARINGS:** All bearings that get wear in operation are machined, to assure accurate fit and smooth surface; this reduces friction, lessens wear, increases ease of operation and adds greatly to life of carrier. Bearings that are left merely cored, as they come from the foundry, are covered with sand roughness, which cuts into metal like so much emery. Hence the great importance of machined bearings.

**CAPACITY:** Approximately 16 bushels.

**WEIGHT:** 250 pounds.



## The James Feed Truck

### SPECIFICATIONS

#### 16-Bushel Truck

**BOX:** Constructed of clear selected lumber, strongly reinforced by side cleats. Bottom is No. 18-gauge galvanized sheet steel. Extreme length 68 inches, width 26 inches, height 24 inches. Ends slanting to make shoveling easy. The weight of the feed box is equally balanced on the wheels so that when filled the truck can be run along any reasonably smooth floor or walk with but little effort.

**WHEELS:** Arrangement of the wheels is such that the truck can be turned around in a space of 75 inches in diameter.

**MAIN WHEELS:** 12 inches in diameter, 2-inch face. End wheel anti-friction swivel, 6-inch diameter, 2-inch face.

**AXLE:** 1-inch solid cold rolled steel, with set collars; axle and wheels run freely. Extreme length of shaft 32 inches.

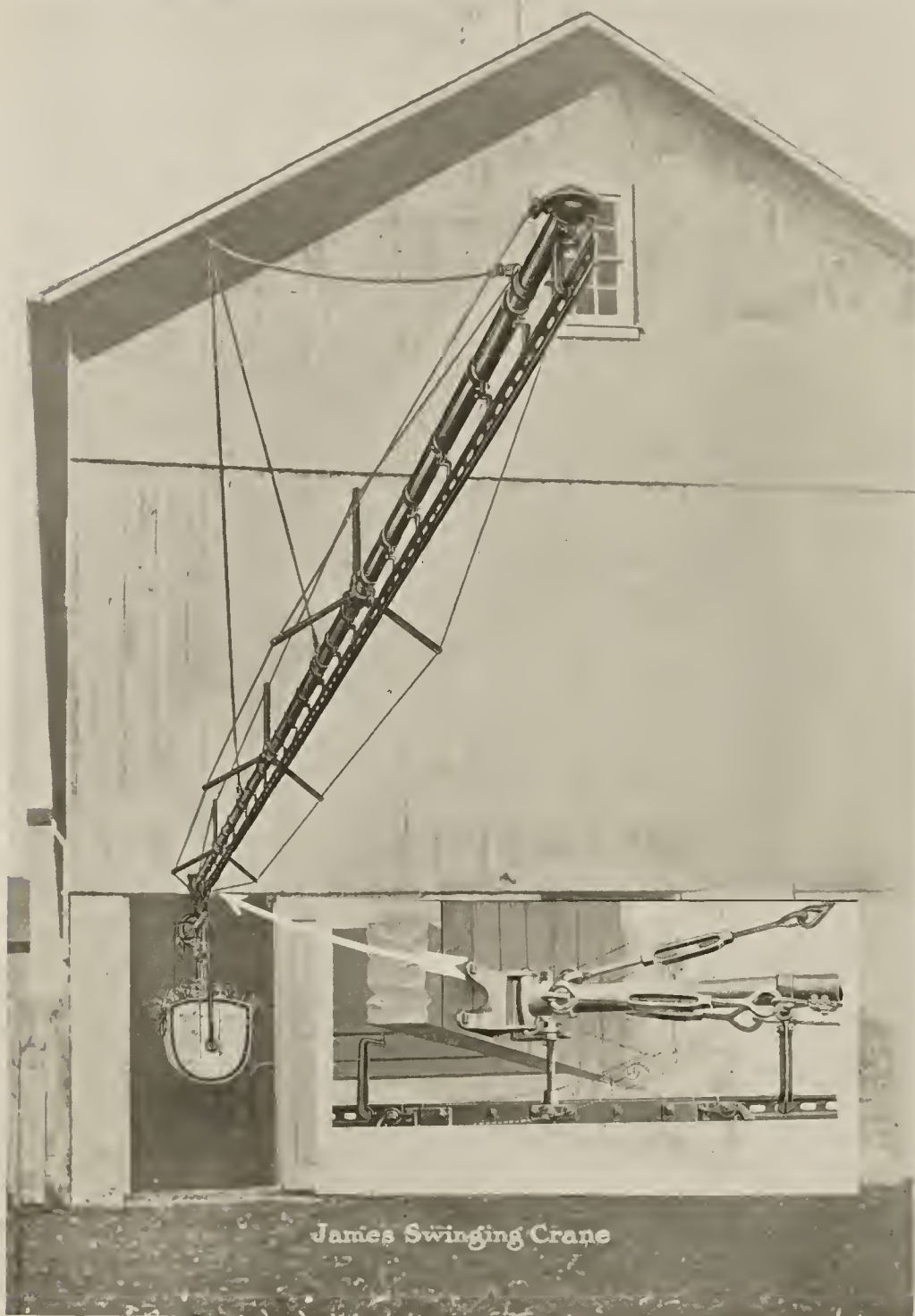
**BEARINGS:** All bearings that get wear in operation are machined, to assure accurate fit and smooth surface; this reduces friction, lessens wear, increases ease of operation and adds greatly to life of carrier. Bearings that are left merely cored, as they come from foundry, are covered with sand roughness, which cuts into metal like so much emery. Hence the great importance of machined bearings.

**CAPACITY:** 16 bushels.

**WEIGHT:** Approximately 200 pounds.

Can be made special in other widths to meet conditions, if alleys or doors are too narrow.





## James Swinging Steel Crane

The James swinging steel crane is the most satisfactory method of supporting the track outside the barn, and costs but little more than the cumbersome, old-time heavy timber supports. It leaves the yard entirely clear, there being no supporting posts to interfere with the use of the yard, or to cause injury to horses or cattle; nor is there any lumber to rot and break. It keeps the yard next to the barn free from manure, because when not convenient to dump on to spreader or wagon, carrier can be dumped on an emergency pile some distance from the barn.

The carrier will pass over the flexible track section readily, even when the crane is swung as much as 30 or 35 degrees to either side from the direct line of carrier track leading to crane; and hence makes possible a dumping area eight or ten times greater than the post supported track of the same length, should it be necessary to allow manure to accumulate.

The length of crane that may be used, if suspended from the barn itself, is dependent on the height of the building.

By erecting the proper supports, it is usually possible to secure the advantage of the swinging crane, even though the building be low or other conditions apparently prevent. An example is shown on page 32. If you want to use a crane and do not know how to support it on your barn, write us and our Service Department will be glad to help you solve the problem.

The track inside the barn and the track supported from the crane are connected by the removable flexible section shown on page 44.

## James Swinging Steel Crane

### SPECIFICATIONS

Carrier cranes being subject to considerable shock, unusual care has been taken to give the James crane great rigidity to prevent buckling. The lateral and vertical strength is furnished by the horizontal and vertical trussed stiffening struts set at frequent intervals. The crane is designed to carry 800 pounds when the load is at the maximum radius of 40 feet.

Galvanized pipe (not merely painted),  $2\frac{3}{8}$ -in. O. D., connected by heavy malleable splice clamps; truss braces of  $1\frac{5}{8}$ -in. O. D. pipe. Truss struts of  $1\frac{5}{8}$ -in. O. D. pipe placed 120 degrees to each other. Three side truss cables  $\frac{5}{16}$ -in. in diameter with  $\frac{1}{2}$ -in. turn-buckles; size and number of guy cables vary according to length of crane; with the 40-ft. crane four  $\frac{5}{16}$ -in. and one  $\frac{3}{8}$  in. cables are furnished, with necessary cable clips and clamps.

The hinge is of best malleable iron with 1-in. diameter steel bolt.

Hook bolt, 1 inch thick, with iron washer, special design, to prevent cables from unhooking, for attaching upper end of guy cables to barn.

### Removable Flexible Track Section

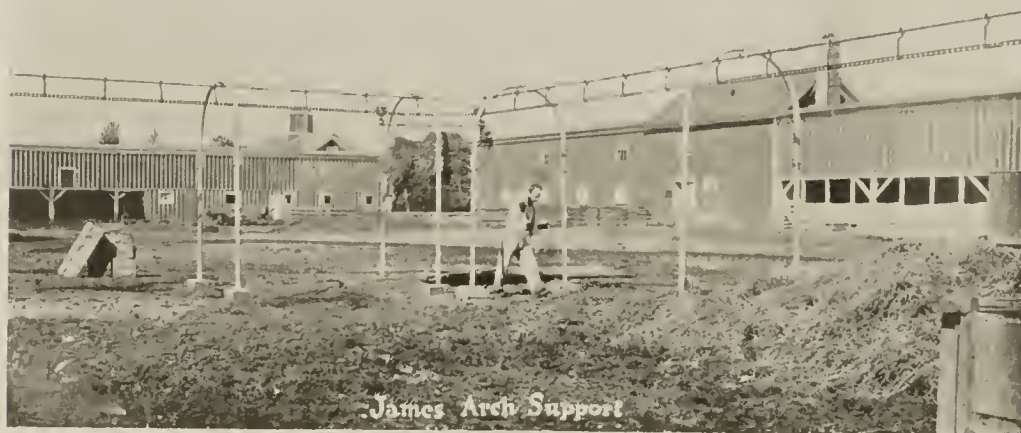
Each swinging crane is furnished with a section of flexible track which is located directly under the crane hinge. The flexible track is built up from 14 pieces of tempered flat spring steel set on edge, carefully machined and assembled. All internal parts thoroughly coated with flake graphite and oil.

This flexible track is eccentrically hung from crane hinge thus avoiding buckling.

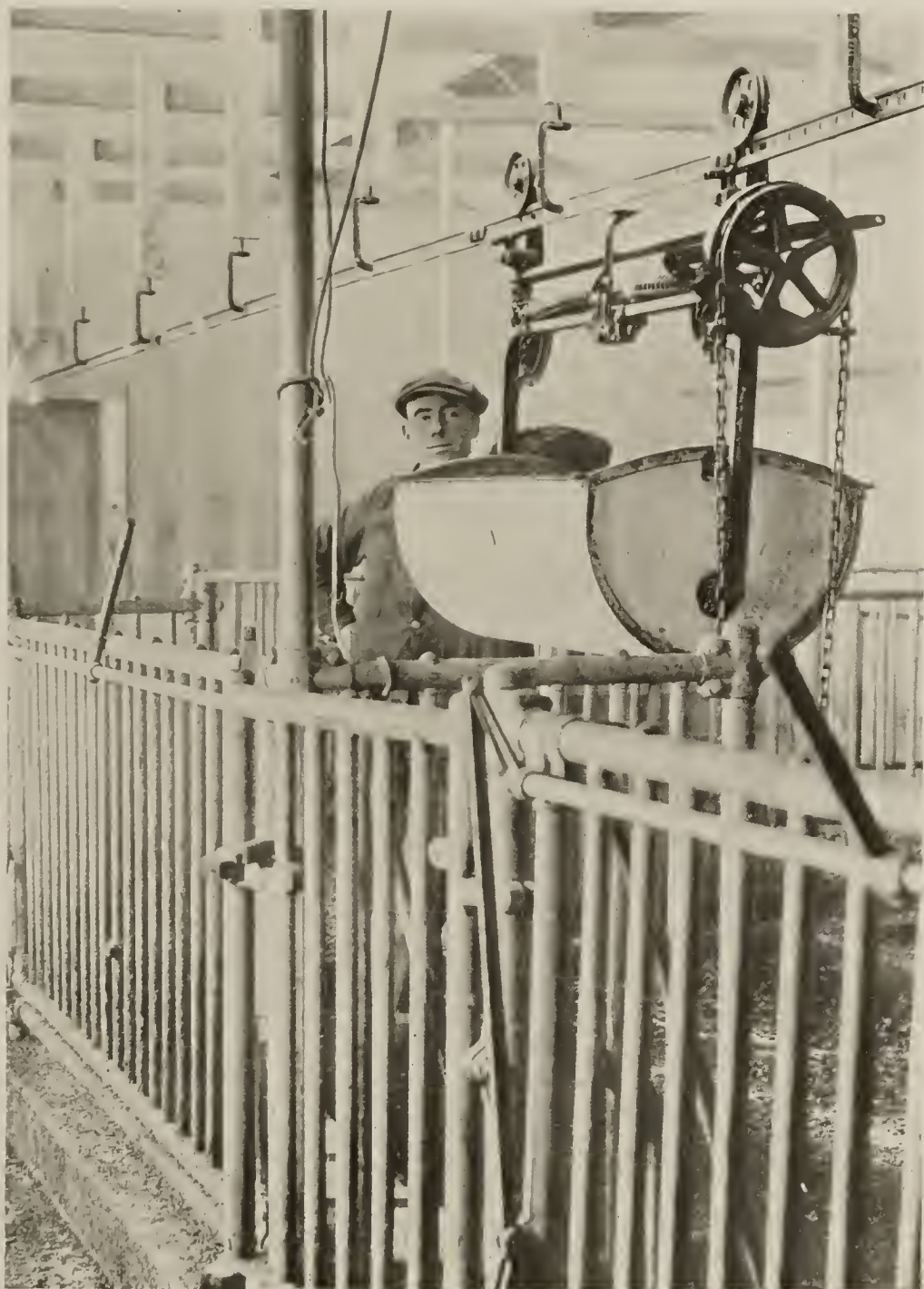
## Steel Arch Support

(PATENTED)

As shown herewith. Constructed of  $2\frac{3}{8}$ -in. O. D. pipe, galvanized, with malleable fittings and  $\frac{1}{2}$ -in. U-bolts on top and  $\frac{7}{16}$ -in. bolts in coupling clamps. The uprights in each pair of posts are five feet apart, on centers set in concrete. Very satisfactory track support. Furnished any height.







James Combination Carrier in Hog House of F. H. Boyle, Fond du Lac, Wis.

(1) A quick shove, at the door, the carrier runs out, (2) dumps: and (3) returns of itself to the barn.



## The James Combination Carrier

(For I-Beam and Rod Track)

This carrier has back of it all the quality, reputation and experience that have made James Carriers and James Equipment famous and successful.

The James Combination Carrier has all the advantages of the I-Beam track inside the barn—the celebrated James track that can be bent to any curve without the use of heat, doing away with the expense for special curves; the “button-on” hangers that make the outfit easy to erect, a tub that can be quickly dropped to the floor for loading, and that “stays put” on the track while being filled—track can’t sag, hence the carrier moves only when you push it; and other features that make barn cleaning easy.

This carrier also has all the advantages of the rod track outside the barn. You can stand at the barn door, give the carrier a shove—it runs out, dumps at the desired point and returns automatically to the barn. Saves walking through the wet yard and snow.

The tub dumps to either side, giving you more dumping space and making it more convenient to dump into wagon or spreader. Latches at the ends of the tub lock and unlock simultaneously; work surely and easily; and are protected so they will not clog with manure.

The trip block which dumps the tub can be locked to the track at any desired point. When the trip strikes this block, the tub dumps to whichever side is loaded the heavier. An ingenious device makes the trip positive, so that dumping is certain.

Carrier returns automatically to the barn when empty.

The long life tub is the same in materials and construction as the “Big Boy” carrier tubs, described on page 58, the only difference being in size.

Heavy straight link lifting chain is used, this being strongest and best adapted to the purpose. It is attached to the center of the cold rolled, solid steel shaft, so that in winding up it forms a very open spiral, preventing rubbing and wear. No cable to wear out and break.

The carrier is very easy running because of the narrow tread on both the I-Beam track and the rod track, and because each tracker wheel contains eleven long, cold rolled steel bearings, making it almost frictionless.

Whether the carrier is on the rod track or on the I-Beam track, or passing from one to the other, it can’t jump off. The ingenious keeper makes that impossible. There is but one way to get it off the track and that is by deliberately lifting it off.

The direct hoist is used; so geared as to raise the load in the shortest time possible without undue effort.

The Absolute Control Clutch and Brake described on page 55 is a most important part of the Combination Carrier. Turn to that page and learn its advantages.





## James Combination Litter Carrier

(PATENTED)

### SPECIFICATIONS

**TUB:** Constructed of 18-gauge galvanized sheet steel. Built on a frame work of angle iron; angle iron at side edges being  $1 \times 1 \times \frac{1}{8}$  in.; at the ends  $1 \times 1 \times \frac{1}{8}$  in.; end of tub reinforced with steel plate  $3\frac{1}{2} \times \frac{1}{8}$  in. Well riveted, all rivets galvanized and are  $\frac{3}{16}$  in., except corner rivets, which are  $\frac{1}{4}$  in. Gudgeon support is riveted to the two thicknesses of steel on end of tub. Tub is self-cleaning.

**PERFECT CONTROL CLUTCH AND BRAKE:** Of malleable and bar steel.

For explanation of operation see page 55.

**HOIST:** Direct type; hoist wheel is 11 in. in diameter; raises tub quickly; made of best iron and steel. (See page 55.)

**CHAIN GUIDES:** Malleable. Prevent hand chain running off hoist wheel.

**SHAFT:**  $1\frac{1}{4}$ -in. cold rolled solid steel shafting, same as used in factories for line shafting. (See page 59.)

**LIFTING CHAIN:** Straight link chain, tested for several times the load it will have to carry. Three-point suspension; in winding up forms an open spiral, preventing rubbing and wear. (See page 59.)

The distance from the top of the tracker wheels to the bottom of the Combination Carrier Tub, when raised, is 44 inches; when lowered the distance is 8 feet.

**TRACKER WHEELS:** Made of gray iron. Large diameter. Mounted on swiveled tracker wheel frames. Tracker wheel axle of steel with eleven long cold rolled steel bearings.

**TRACKER WHEEL FRAME AND KEEPER:** So constructed that wheels can not jump the track whether on rod track, I-beam track or passing from one to the other. (See page 57.)

**BAIL:** Channel steel, reinforced by corner bail braces.

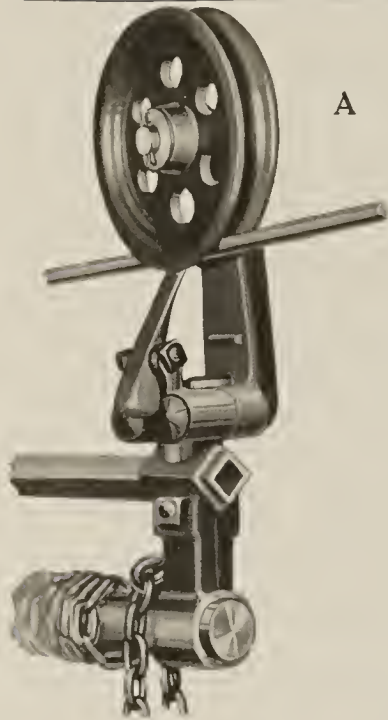
**LATCH AND TRIP:** Latches at both ends, locking and unlocking simultaneously. Tub dumps automatically when trip strikes the trip block; trip block, of malleable iron locked to cable with a set screw  $1 \times \frac{1}{4}$  in., can be locked at any desired point on the track.

**BEARINGS:** All bearings that get wear in operation are machined, to assure accurate fit and smooth surface; this reduces friction, lessens wear, increases ease of operation and adds greatly to life of carrier. Bearings that are left merely cored, as they come from the foundry, are covered with sand roughness, which cuts into metal like so much emery. Hence the great importance of machined bearings.

**CAPACITY:** Tub is 40 inches long, 22 inches wide, 16 inches deep, and measures approximately 5 bushels.

**WEIGHT:** Approximately 145 pounds.

No. 000000 rod track must be used with the combination carrier.



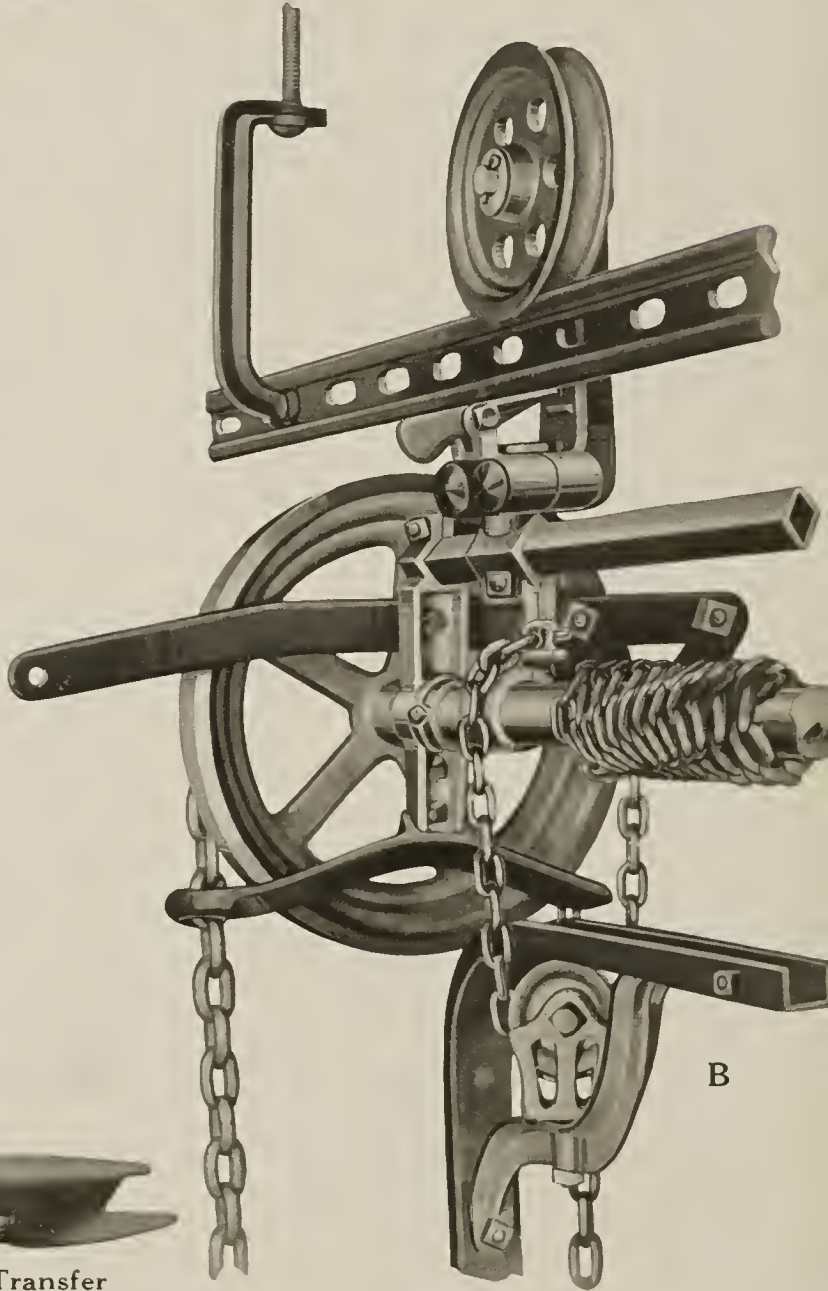
A



**Adjustable Track Strut**  
See illustration above



**Combination Track Transfer**



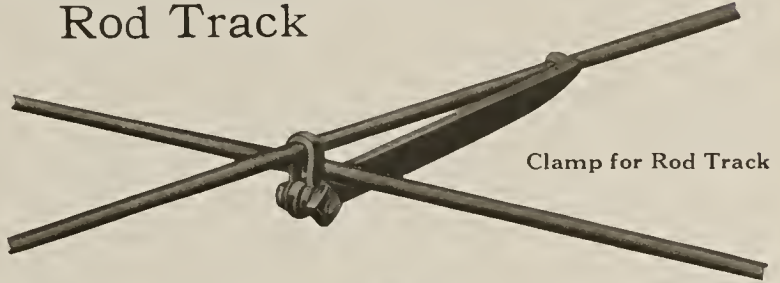
B

Illustrations A and B show clearly the operation of the keeper which prevents jumping the track; the absolute control clutch and brake; and the easy running tracker wheels. The winding shaft is cold rolled, solid steel shafting.



## "Combination" Carrier Parts for Rod Track

Six 0 Basic Steel Wire,  
cut to length.



Clamp for Rod Track

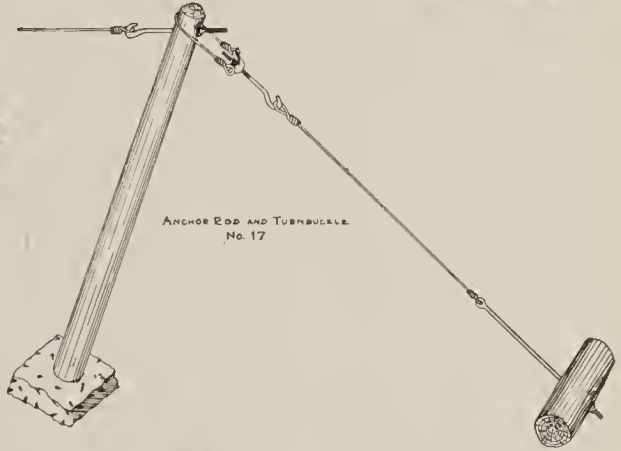


Spring Track Suspender, No. 3

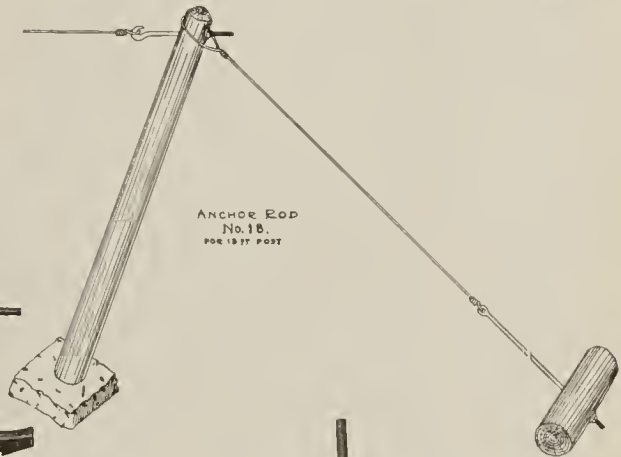


Rigid Track Suspender, No. 4

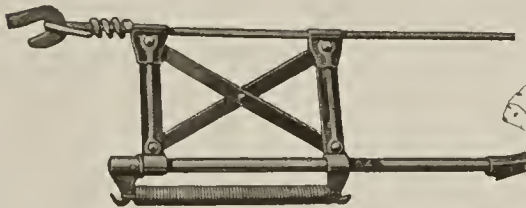
Two Sizes;  
7/8" x 29'  
8/8" x 15'



ANCHOR ROD AND TURNBUCKLE  
No. 17



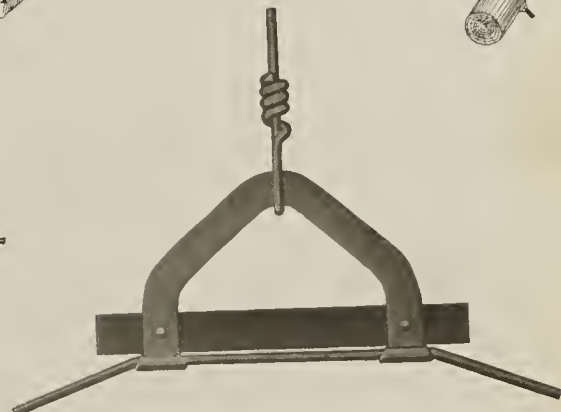
ANCHOR ROD  
No. 18.  
FOR 19-27 POST



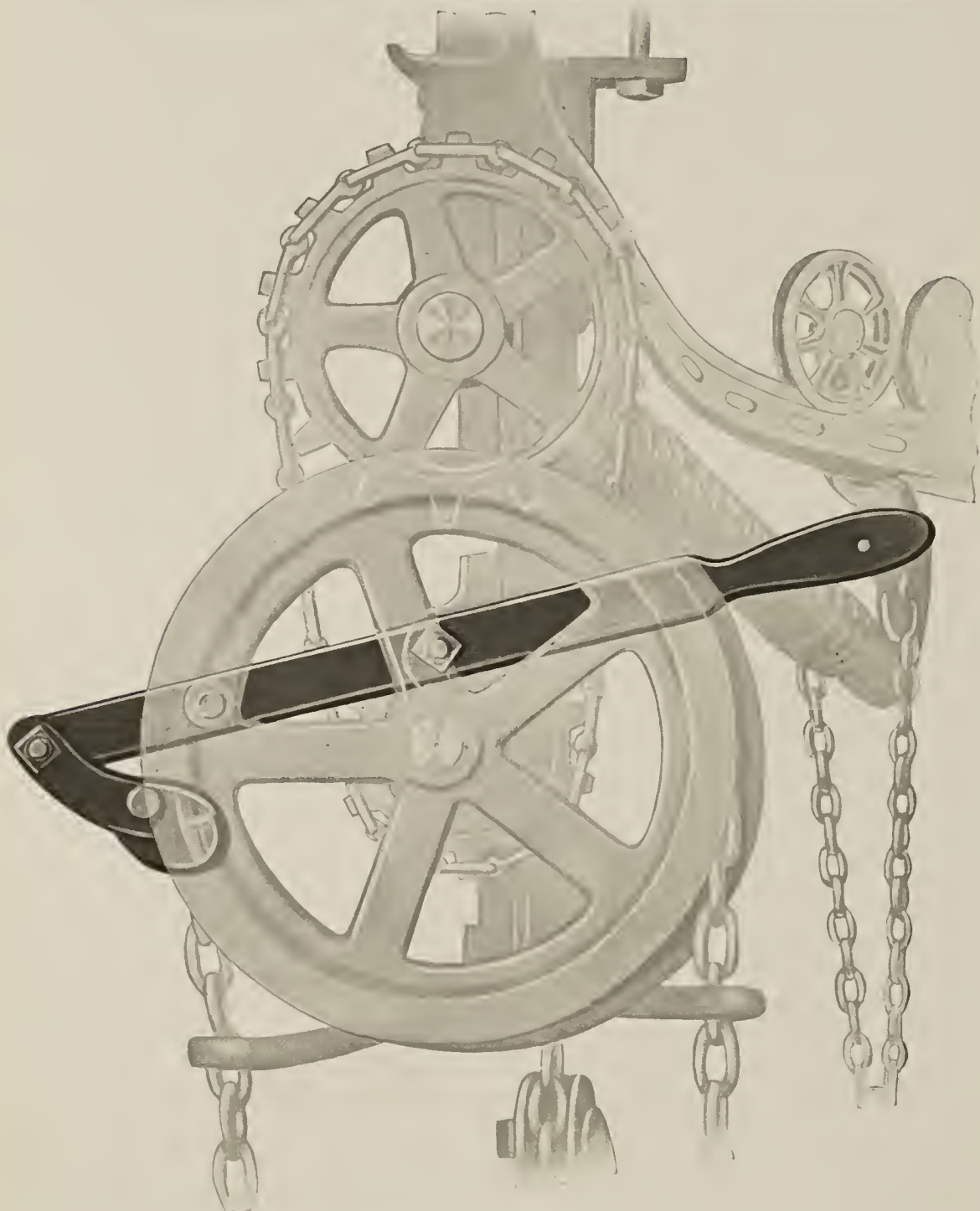
Safety Device, No. 9



Switch or Curve, No. 6



Angle Bracket for Rod Track



**"Big Boy" Hoist, with Absolute Control Clutch and Brake**

## Special Features of James Carriers

### Absolute Control Clutch and Brake

(PATENTED)

This exclusive James feature makes possible the quick lowering of the tub by its own weight, thus saving time in doing the chores—yet keeping the speed of descent under the absolute control of the operator.

The friction brake enables the operator to lower the tub slowly—a sixteenth of an inch, or the entire length of the chain—or drop it quickly to within a few inches of the floor, and stop it almost instantly.

The empty tub can be dropped from an eight-foot track to the floor in five seconds; the "Big Boy," filled, can be raised to an eight-foot track in from 20 to 25 seconds. The first time you have a chance, compare this record with other carriers, and then figure out for yourself how much time this one feature will save you in a year.

The friction brake and the clutch are both controlled by the one lever, hence both are operated with the one hand. It is not necessary to touch the hand chain when lowering the tub—the one hand and the one lever starts, controls and stops it.

When ready to lower the tub, a quick, strong pull on the control lever will release the clutch and set the friction brake; the pressure on the lever then controls. Release the pressure somewhat and the tub begins to descend; a slight pull slackens the speed regardless of the weight in the tub; a stronger pull stops the descent.

The lever may then be released entirely, setting the clutch instantly, holding the tub firmly at that exact point; the clutch never slips.

This clutch is also a time saver when raising the tub, because it prevents any slipping back, a thing that is so annoying when raising a loaded tub with a hoist using dog and ratchet. The James clutch takes hold so quickly and firmly that, no matter how heavy the load, the James Carrier cannot slip back a fraction of an inch, even though it be raised an inch at a time. There is no lost motion.

There are no ratchet teeth on the James Carrier, nothing to break or get out of order. The X-ray picture on the opposite page shows the simplicity of the mechanism and how it operates. In the picture the clutch is set.

### "Big Boy" Hoist

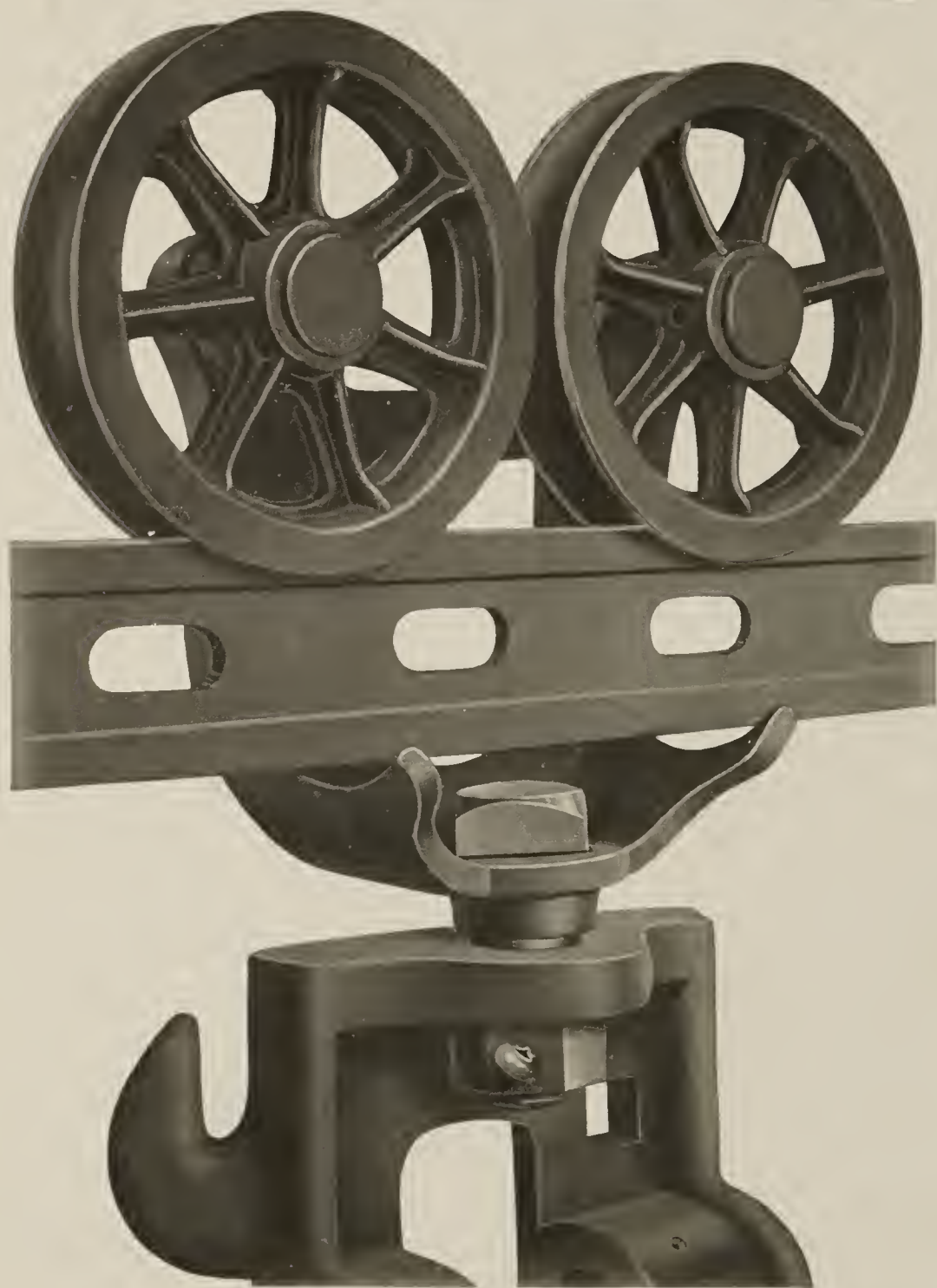
Even a boy can operate the "Big Boy" carrier. The hoist is so geared as to make possible raising a heavy load in the shortest time without undue effort.

The chain and sprocket type of hoist is used, the chain being the same size as that used to drive most grain binders. Every mechanic knows that this type of hoist has the least friction, excepting only the direct hoist which, however, requires more power.

The worm gear hoists so often used are extremely wasteful of power because of a loss of power through friction; this may be verified by any textbook on the subject, or by any engineer. The mere fact that with worm gear type of carriers the tub will not lower of its own weight, but must be pulled down as well as up, shows how great the friction must be in the worm gear hoist. When the brake and clutch on the James Carrier are both released, the tub drops almost instantly, running free, proving how little the friction is.

The frame carrying the lower sprocket of the "Big Boy" hoist is adjustable to take up any slack in the chain, thus making it possible to overcome the effect of any wear in the lifting apparatus. Hoist is constructed throughout of the best iron and steel. All bearings are machined—not merely cored.





## Simple Chain Guides

Simple chain guides of malleable prevent the hand chain running off the hoist wheel.

## “Long Wheel Base” Tandem Trucks

Each truck has two large, grey iron travelers, mounted tandem in a swiveled tracker wheel frame, like the trucks on a railroad car.

This arrangement keeps the travelers always in alignment with the track, doing away with any tendency to turn and bind, causing friction and wear. It also does away with any tendency to jerk, and make the carrier push hard.

Every farmer who has ever owned or used one of the older style of carriers that run on a flange track, with the tracker wheels side by side, will remember distinctly enough how jerkily and unevenly such a carrier runs on the track, and how hard it was to push.

But how many have ever stopped to figure out the cause of the jerking motion? Perhaps this will explain it.

Each truck of a carrier is hung on a swivel, so that the carrier will take the curve. In order that the trucks may swivel, there must be some play in the swivel joints. When you start to shove the loaded carrier along the track, the friction on the track flanges causes the tracker wheels to lag back—then suddenly the shove on the carrier becomes strong enough to overcome the friction, when the tracker wheels jerk forward.

Then they lag back again—then jerk forward. You who have used such a carrier know how hard it is to push along the track, and how as the swivel wears more and more, the trouble becomes more and more aggravating.

This jerkiness is forestalled in the James Carrier by means of the tandem tracker wheels. For any of the tracker wheels on a James Carrier to lag back or jerk forward, it would be necessary to raise either the front or the rear wheel. Here's an illustration:

Take an ordinary hoe, and hook the shank over the track; give the handle a shove parallel with the track, and it will swing back and forth like the pendulum of a clock.

Now take a two prong or two shank garden hoe, and hang this over the track so that both shanks touch the track, giving you a two-point suspension, the same as you have with the James tandem tracker wheels. Now give the handle a shove in line with the track, it will sway back and forth two or three times and settle into position.

This is brought about by the fact that in order to sway, it is necessary to raise one of the two points of suspension. The same principle applies to James tandem tracker wheels.

The tracker wheel axle is of lathe-cut steel, the journal being machined and surfaced to size, so that the axle fits perfectly. There is an oil pocket around the axle, which distributes the oil evenly, adding to the life of the carrier and making it run more easily and smoothly. The oil pocket is filled through oil hole in the hub shown in the picture.

## Keeper Prevents Carrier Jumping the Track

The tracker wheel frame is so shaped that it prevents the carrier from jumping the track; in fact, the carrier can be removed only by the human hand, swinging the tracker wheels, wheel frame and frame support to one side and lifting them at the same time.

## “Long Life” Tubs

The James Carrier tubs, like the rest of James Equipment, are built to last throughout long years of heavy usage. Although a tub full of wet manure weighs but 650 pounds, the “Big Boy” tubs have been subjected to a test of three times that weight, without breaking or developing any weakness, either in the tubs or the other parts of the carrier outfit. The Combination carrier is of equal strength in proportion to the load which it is designed to carry.

James tubs are so shaped as to be self-cleaning when dumped, there being no corners where litter can collect. Ends of tubs are rounded, higher than the sides, making them neater in appearance and providing more capacity. Also prevents contents of the tub from binding the bail or clogging the latch and thus interfering with the proper dumping.

Liquid manure is often the last to be loaded, and is apt to settle at the ends; the rounded ends being higher than the sides prevent the liquids from slopping over the ends when you push carrier along the track. This higher rounded end costs much more to build, but it is a feature greatly appreciated by the user, helping to keep hands, clothes and floor clean.

James tubs for the “Big Boy” carriers are constructed of 18-gauge galvanized steel, well riveted, not spot welded, to a framework of galvanized angle iron. 147 rivets are used on the tub. The angle iron at the side edges is  $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$  in. and at the ends  $\frac{7}{8} \times 1\frac{3}{8} \times \frac{1}{8}$  in.; end of tub reinforced with steel plates weighing  $4\frac{1}{2}$  pounds each,  $4\frac{1}{2}$  in. wide by  $\frac{1}{8}$  in. thick. Rivets are  $\frac{3}{16}$  in. sherrardized, excepting corner rivets which are  $\frac{1}{4}$  in.

The heavy angle iron framework, steel plate reinforcing on the ends and the heavy riveting give the James tubs great strength and durability, making the tubs almost indestructible, and absolutely rigid so that they will not rack. The strength of these tubs, and the superior workmanship put into them, cannot well be described; but can be appreciated only on seeing the tubs themselves.

## Bail

When the “Big Boy” carrier is dropped to the floor, there is no horizontal bar in the way to interfere with loading. But when the tub is raised, the bail hangers lock in position against the horizontal shaft, forming a complete bail, and giving necessary rigidity to insure the carrier running steadily along the track.

Thus the bail of the carrier is in place only when a complete bail is needed, and is out of the way while loading the tub.

The bail hangers are heavy, flat steel bars,  $\frac{5}{16} \times 1\frac{1}{2}$  in. with malleable fittings. Being turned *edgewise* to the tub, the bail hangers will not bend when a sudden jerk of the tub puts strain upon them. In carriers where such hangers are turned *flat side* to the tub, sudden endwise jerking of the carrier may bend them, interfering with the operation of the latch and trip.

## Dumps Either Side

Tub can be dumped to either side, according to which side is loaded the heavier. This makes it easier to load the spreader or wagon evenly, and gives greater dumping area.

The simple latches at each end of the tub are so connected as to lock and unlock simultaneously; latches are protected against clogging with manure.

## Gudgeon

Gudgeon is of malleable, strongly riveted to the bail hanger. Gudgeon support is riveted through the two thicknesses of galvanized steel—the end of the tub and the steel reinforcing plate—and the rivets will not pull through.



## Solid Steel Shaft

The shafts used on all James Carriers are of cold rolled, solid steel, 1 $\frac{1}{4}$  inches in diameter. The quality of material is the same as that used in factories for line shafting, where its strength and success have been fully proved.

The solid steel shaft will not bend — it may spring a trifle with an overload, but when the weight is removed it immediately springs back into place.

The solid steel shaft is rolled to exact size, and fits the bearings and sprocket perfectly, leaving practically no chance for any play and wear. Tubing, on the other hand, though often used for carrier shafts, is not suited to the purpose, because it varies in size, and cannot be made to fit accurately; and because tubing once bent, remains bent.

## Lifting Chain

The lifting chain or cable is the weakest point in many carriers — the limited winding space on the shaft making it necessary to use small chain or cable of insufficient strength.

The lifting chain on James Carriers has the full length of the shaft on which to wind; heavy, straight link chain is used, this being strongest and best suited to the purpose.

It is attached to the center of the shaft and winds up in such a way that it forms an open spiral — the chain does not climb upon itself, causing it to rub and wear. Chain is tested for five times the load it will have to carry.

The three point suspension distributes the load equally along the shaft; and gives a double purchase, making it easier to raise the tub.

## High Lift Feature

The long winding space on the shaft makes it easy to transform the carrier into a high lift carrier, by merely putting on longer lifting chains. There is plenty of room on the shaft for all the chain required for any ordinary height of ceiling.

The James Carrier tubs raise closer to the track than others, thus oftentimes avoiding the necessity of excavating when there is a rise of ground just outside the door; the carrier more readily clears the spreader or wagon, and the manure can be piled higher when it is necessary to let it accumulate in the yard.

The "Big Boy" Carrier with tub, in raised position, measures but three feet from bottom of track to bottom of tub.

## Removable Track Sections

Used to permit closing of sliding doors; also used where two tracks cross, and for other necessary openings. When removed, automatically sets stop blocks, making it impossible for a carrier to run off the open ends of the track.

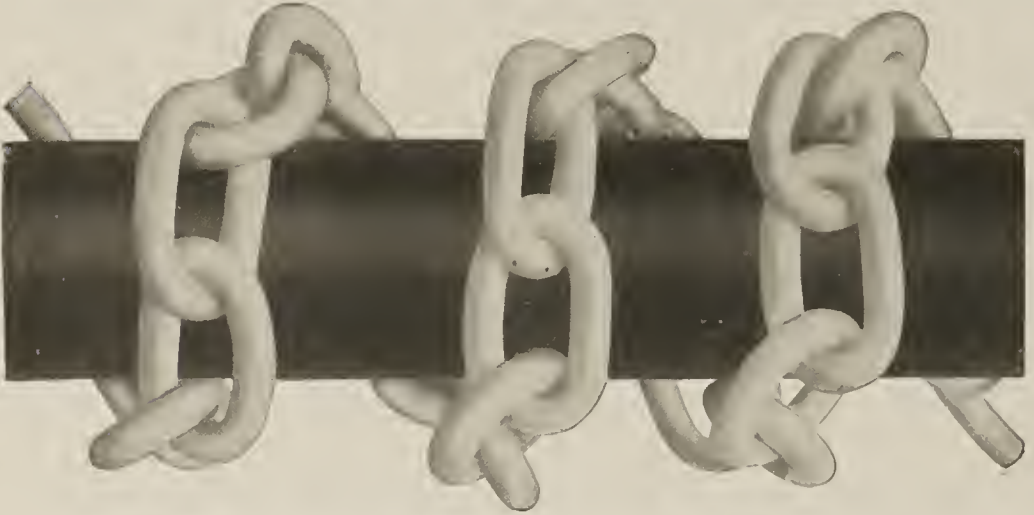
Standard length is fourteen inches, but for driveways, etc., can be supplied any length.

## I-Beam Track

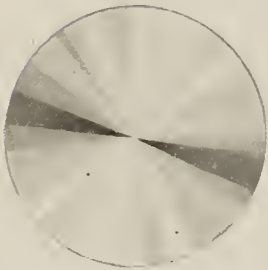
(PATENTED)

The James Track has many important advantages not possessed by other tracks.

In the first place, it can be quickly and easily put up, even by inexperienced help—in fact, is easier to erect than any rod track. And once in place, it is there to stay.



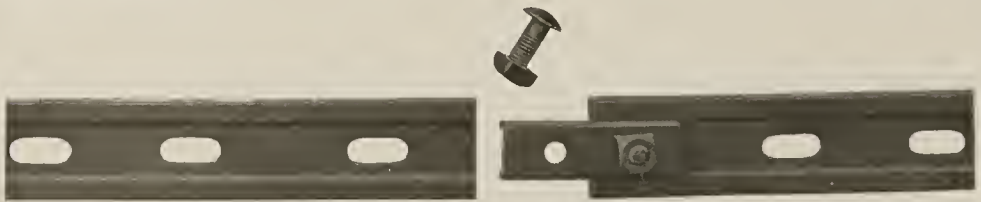
Solid Steel Shaft and Lifting Chain—less than actual size



Actual size of shaft



James Removable Track Section



Splice Block for James I-Beam Track



James I-Beam Track—actual size

There is nothing about it that will give, spread, loosen or get out of order; it is trouble proof—and will stand up under long years of heavy service.

No bolts or nuts are required for putting track and hangers together. The hangers “button” to the track and the nailing plates “button” to the hanger, the plates being nailed to the joists. If the barn is ceiled, ceiling plates with lag screws are used instead of nailing plates. The few simple instructions sent with each order, enable any one to get a first-class job, with the track perfectly levelled.

James I-Beam track saves the cost of special curves. The track may be quickly and easily bent to any curve while it is being put up in the barn—heat is not required to do the bending. As several curves are often necessary in a barn, and as these curves cost several dollars apiece when ordinary flange track is purchased, this saving is no small item; and is a very big one if the track is for a round barn.

Many litter carriers use a track that is not at all adapted to the litter carrier. A track that is flat has but little strength vertically.

When used outside the barn, snow and sleet accumulate on the flat surface, blocking the carrier wheels. Before the carrier can be used outside, the snow or ice must be cleared from the track by melting or scraping it off—and this is no easy task, for the track is up high. Inside the barn, a flat track allows the dirt to accumulate.

The James Track is different. Its narrow tread affords no place for snow or sleet or dirt to collect—no sleet storm will put it out of use just when you need it most, in the disagreeable weather.

The narrow tread of the James track offers little resistance to the travellers; there being little friction surface, the carrier runs easily.

Track being one piece cannot spread and bind the tracker wheels.

The depth of the track and its heavy flanges at top and bottom make the James track stiff—it does not spring under heavy loads. This in part accounts for the ease with which big loads are handled on it. Any track without the necessary vertical strength will spring, making “low spots” in between hangers; and the carrier will push hard and jerkily.

The depth gives it long life because of the greater thickness of wearing surface; when the upper bead has worn thin, if it ever does, track can be turned edge for edge, the bottom bead forming new running surface. It will be giving satisfactory service many years after ordinary flat track has gone to the junk pile.

In fact, James track meets every condition required of a litter carrier equipment in any barn; it may be hung high or low, and run wherever there is room for the tub to pass.

The track is shaped like a railroad rail and for just the same reason. When the first railroad was constructed, a flat track was used, and soon abandoned for the present shape, in order to secure greater strength, longer wear and an even running surface.

It is heavy at the points of greatest strain. The weight on top puts the compression strain where the track is heavy; and the pulling strain where the track is just as strong. The compression strain and the pulling strain neutralize each other at the center of the track—less strength is required there, and hence that part of the track is made lighter. Every particle of metal helps to support the load, and the James track is therefore many times stronger than other types of track of equal weight.

Made of high carbon steel, same as a railroad rail; two inches deep; is easily put together with the channel steel splice bars and  $\frac{7}{16}$  in. bolts—the track will not come apart and the joints will not give or sag. Holes in the track are two inches apart on centers.





Fig. 1

About  
1/2  
th size  
of hanger.



Fig. 3



Fig. 2



Fig. 4



Fig. 5

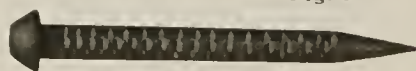


Fig. 6

## James Track Hangers

(PATENTED)

We call them the "button-on" hangers, because of the peculiar shape which does away with the use of bolts and nuts for attaching the hangers to the track.

In putting up the track, the hangers "button on"—you put the button of the hanger through the hole in the track, slip the nailing plate through hole in the hanger, turn to position desired and fasten to joist or ceiling. (See Figs. 1, 2 and 3, page 62.)

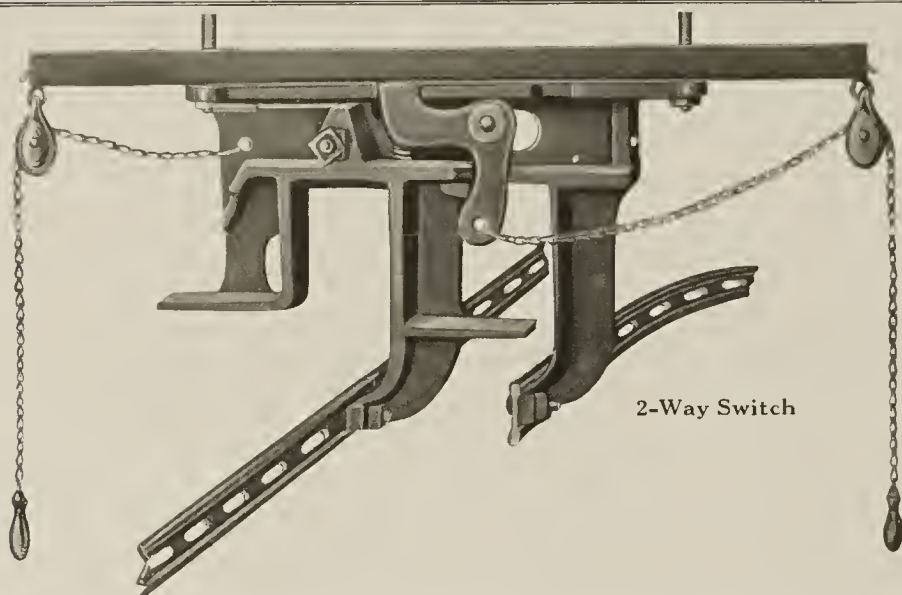
Nailing plates (Fig. 3) or nailing plates with extension bolts (Fig. 5) are used for attaching to joists. If the barn is ceiled, ceiling plates with extension bolts (Fig. 4) of proper length are used with the hangers.

For the "Big Boy," the Combination Carrier, the Swill Carrier and the Feed Carrier, but the one style of hanger is required. Various lengths of extension bolts make it easy to drop the track any distance from the ceiling. And with either nailing plates or ceiling plates, it is a simple matter to level the track perfectly. No bolts being used in attaching hangers to the track, there are no nuts to rattle loose or come off—the track is held firmly.

**STOP BLOCK:** There is no extra cost for special stop blocks, none being required. Any hanger inserted on the opposite side of the track from the other hangers acts as a stop block, as well as supporting the track. The stop block, being "buttoned on," cannot work loose—making it impossible for the carrier to run off the end of the track.

Made of best malleable iron—they will not break.

Hangers should be used not more than 32 inches apart.



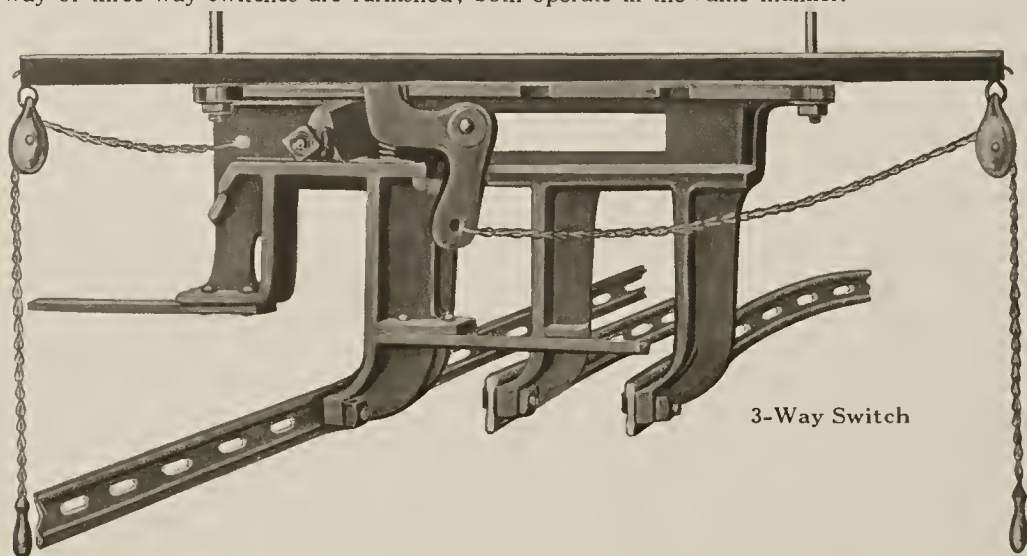
### James Safety Switches for Big Boy Carrier

(PATENTED)

Anyone who has had experience with the unsatisfactory devices used in the past for transferring a carrier from one section of track to another section, will appreciate the James Safety Switch.

It can be operated conveniently from below, no matter how high the track is hung; a pull on the chain unlocks the switch and transfers to the other track, at the same time setting stop blocks across the open ends; there is never any possibility of a James Carrier running off the track, for a projection on the switch arm blocks the open tracks. When the pull on the chain is released, the switch automatically locks in place.

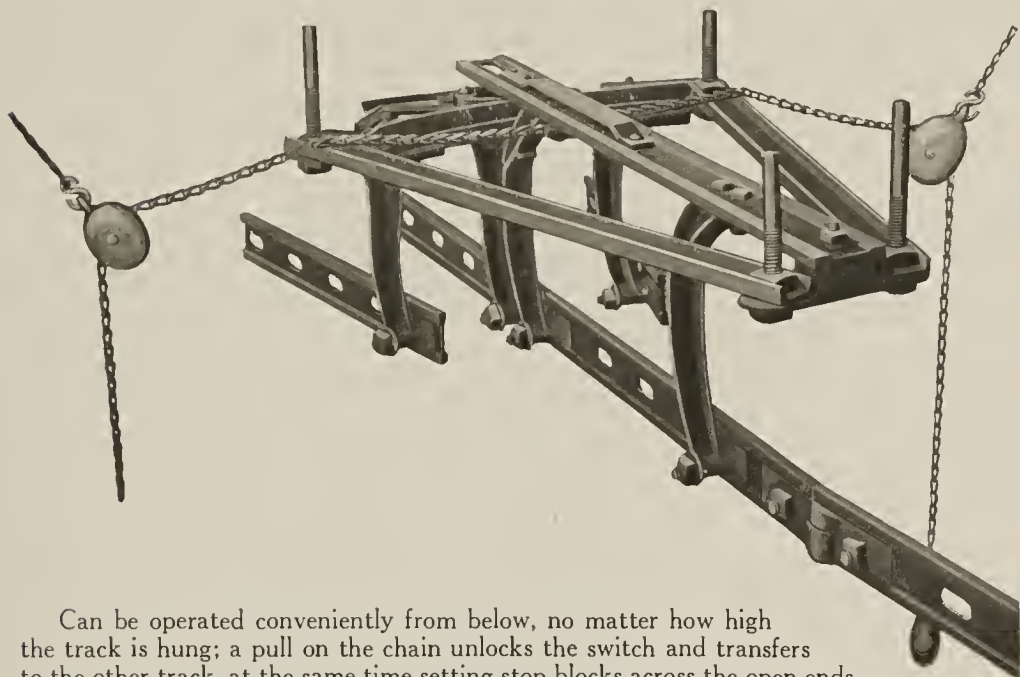
The James Safety Switch is the simplest, surest and easiest in operation; being constructed of best iron, it is strong and durable. Switches are reversible, and either two-way or three-way switches are furnished; both operate in the same manner.





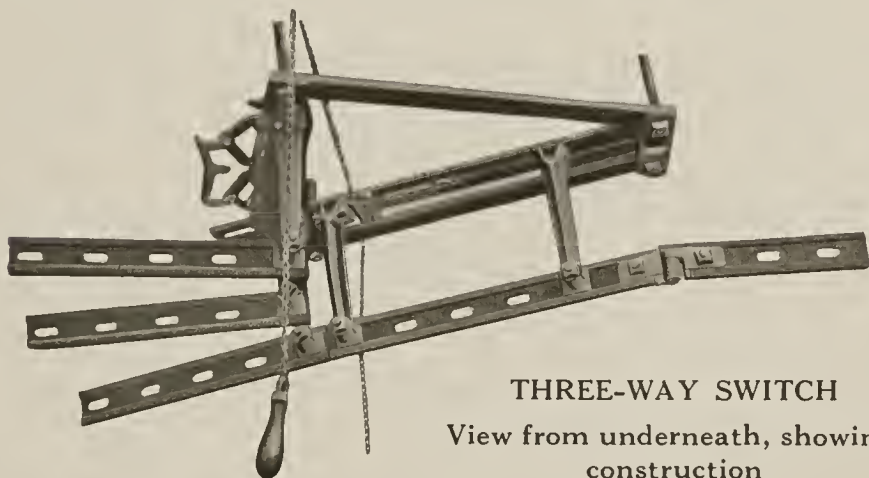
## Safety Switches for Combination Carrier

(PATENTED)



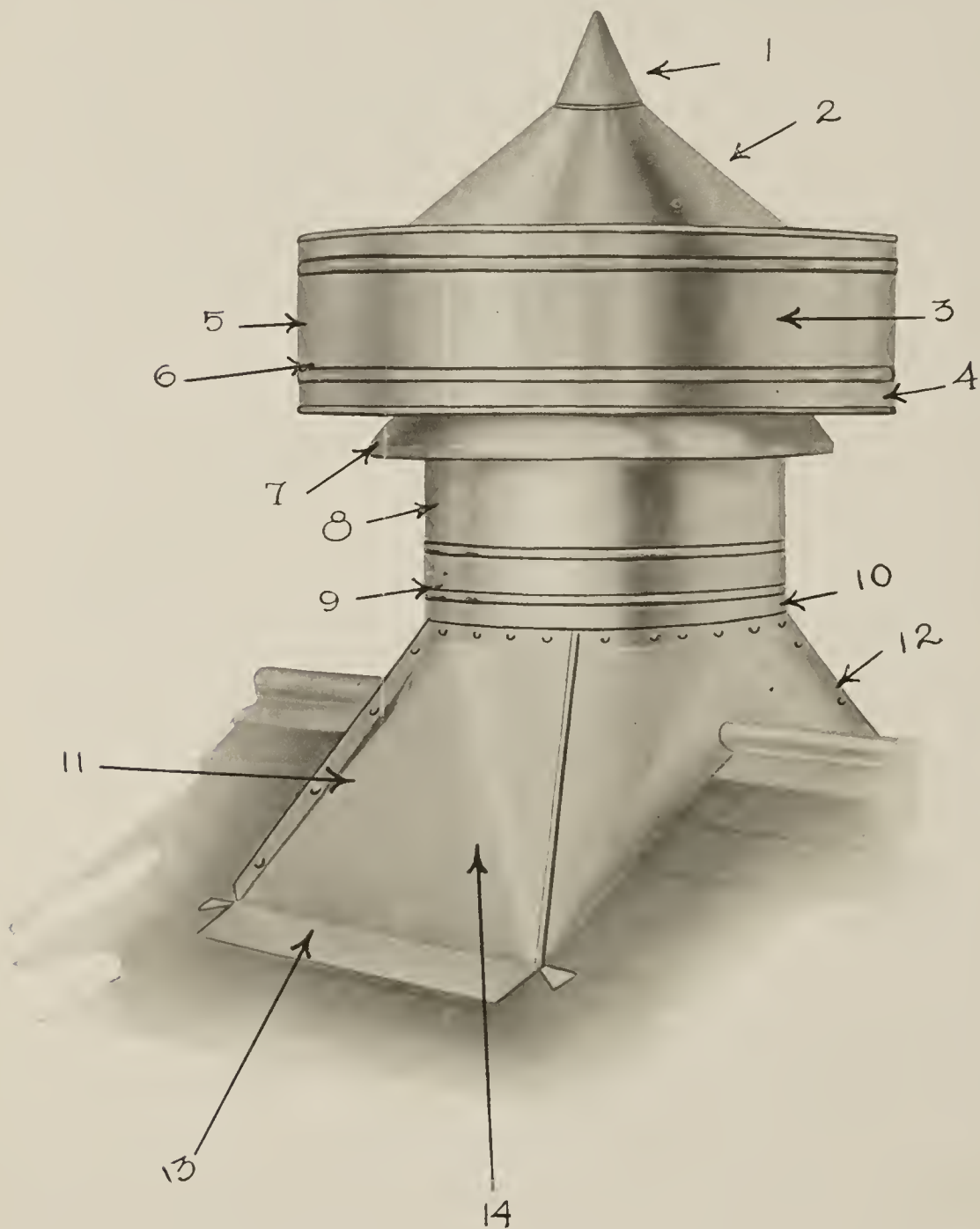
Can be operated conveniently from below, no matter how high the track is hung; a pull on the chain unlocks the switch and transfers to the other track, at the same time setting stop blocks across the open ends, there is never any possibility of a James Carrier running off the track. When the pull on the chain is released, the switch automatically locks in place.

The James Safety Switch is the simplest, surest and easiest in operation; being constructed of best iron, it is strong and durable. Either two-way or three-way switches are furnished; both operate in the same manner.



THREE-WAY SWITCH

View from underneath, showing  
construction



## James Ventilators with Solid Hoods

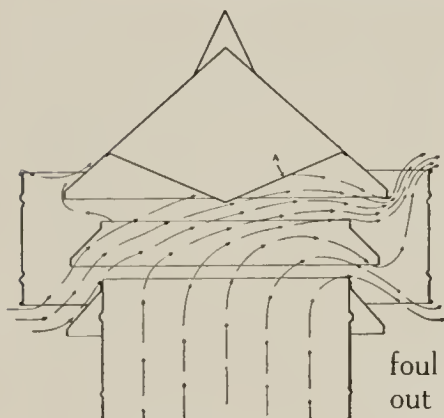


Fig. 1

James Solid Hood Ventilator

They are built on strictly scientific principles, made of the same high quality materials.

The inverted cone "A," Fig. 1, turns the air rising from the outtake flues outward and upward. There is no opportunity for the outflowing current of air to turn back upon itself, cause eddies, choke the flue, or interfere in any way with the free escape of foul air. The storm band and the skirts keep out snow and rain and make the ventilator proof against the wind.

All openings are protected by galvanized bird-proof netting.

The 24-inch and 30-inch ventilators with base as shown on page 68, may be had also with weather vane.

### SPECIFICATIONS

(See Opposite Page)

1. Heavy galvanized finial.
2. Heavy galvanized cone.
3. Inverted inner cone. Turns air currents out and up.
4. Heavy steel wiring amply strengthening storm band, on sizes above 18-in. diameter.  
On sizes 18-in. or less, edge of storm band is folded and compressed.
5. Heavy galvanized storm band. This band with skirts inside to keep out rain and snow.
6. Heavy beading stiffening and strengthening storm band.
7. Skirt greatly assists in aiding the draft.
8. Heavy galvanized upper round body.
9. Special bolts and nuts for fastening upper round body to lower round body.  
(Round body can be lengthened by inserting the desired length of tube at this joint.)
10. Heavy galvanized lower round body.
11. Special alloy non-corrosive rivets used throughout the entire structure.
12. Standing seams used to strengthen body.
13. Galvanized flashing, so constructed as to leave the least work for the workman when placing the ventilator on the roof.
14. Heavy galvanized combination lower body and base used in mounting ventilator on flat roofs or on ridge of pitched roofs.



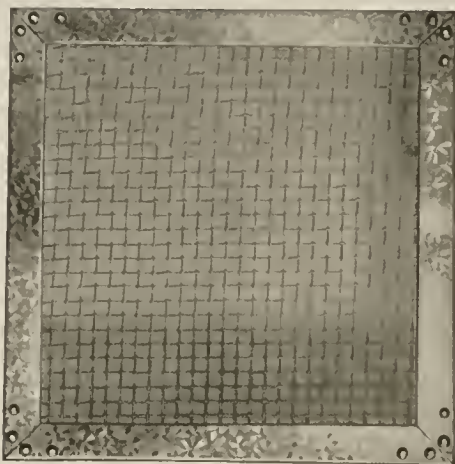
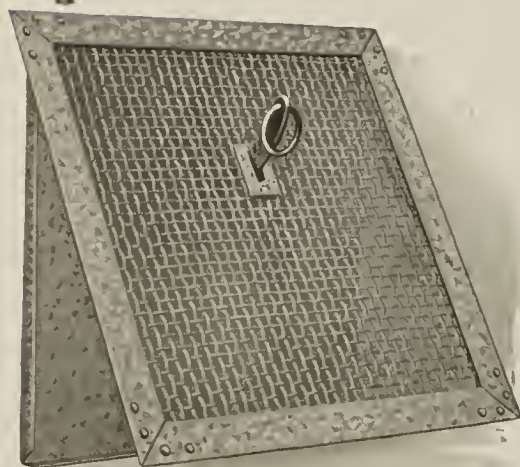
Adjuster for  
Outtake  
Length 18 inches



James Registers



Window Ventilator Closed



## James Window Ventilators

For use where the fresh air enters the barn through vertical windows. The windows need not be hinged at the bottom; James Window Ventilators when the windows are tilted in, throw the fresh air up against the ceiling, diffusing it and prevent the air entering the barn at the sides of the open windows.

Furnished with a device that permits locking of the window in any of the five positions, thus controlling the amount of air admitted; this holds the window solid and prevents the wind from knocking it back and forth.

## James Registers

(For Intakes Only)

The James registers are designed specifically for barn ventilation purposes. Registers made of cast iron have two serious objections: the metal takes up too much room in the opening, cutting down the effective area; in the second place the cast iron registers are too quickly affected by the moisture usually found in the dairy stable.

The wire mesh of the James register gives far greater effective opening and the register being galvanized throughout is not affected by moisture.

The complete register is equipped with a "tell-tale" device that permits fastening the register open in several positions; a glance down the row of registers at the tell-tales shows which registers are open and how much.

Register faces (designed for outside intakes only) are regularly furnished 8 in. x 8 in., 10 in. x 10 in., 6 in. x 14 in., 8 in. x 14 in., 10 in. x 14 in., 14 in. x 14 in.

The complete registers are furnished in sizes: 8 in. x 8 in., 10 in. x 10 in., 14 in. x 14 in.

The 14 in. x 14 in. complete register is recommended for use where the intake flues open into the stable—that is, in the ceiling or side wall near the ceiling. This size being larger than the intake flues, reduces the high velocity of the incoming air, drafts are lessened and better diffusion of the fresh air secured.

The 8 in. x 8 in. and 10 in. x 10 in. registers are intended for concrete, brick and hollow tile wall and under conditions where there are but a few head of stock.

## Adjuster

Adjuster for opening an outtake flue. (See illustration, opposite page.)



James Ventilators, Sunny Hog Barn of F. C. Bunte, farm at Barrington, Ill.



Sunny Hog Barn, Mrs. Mary Greek, DeKalb, Ill.



Sunny Hog Barn, T. K. Maher, farm at Elyria, Ohio.



## James Floor Scraper

At last, you can obtain a floor scraper that will actually clean.

The home-made scrapers and those which have been placed on the market heretofore chatter, jump and slide over the manure. They don't hug the floor.

The design and shape of the James Scraper is such that it gets right down under the manure and clings to the floor. No matter whether you push down hard or shove it gently, it sticks. The harder you push, the deeper it digs. It is correct in principle.

For cleaning the walk and floor of the hog barn, the James Scraper is unexcelled. Its great width of straight edge makes quick work. It does work that cannot be done

satisfactorily with a shovel, taking off all the dirt and leaving the cement floor clean so that animals are not liable to slip as they come in or leave the barn.

The James scraper is also unexcelled for removing packed snow or ice from cement walks, and for the cleaning of city pavements.

The floor scraper blades are made of high carbon shovel steel and will wear a long time; castings of best malleable riveted to blades by powerful pressure and bolted to handle; handles of second-growth ash thoroughly seasoned, tough, strong and smooth. All metal parts given a coat of black paint.

Made in 24-in. and  
15-in. widths.



## James Hog Trough

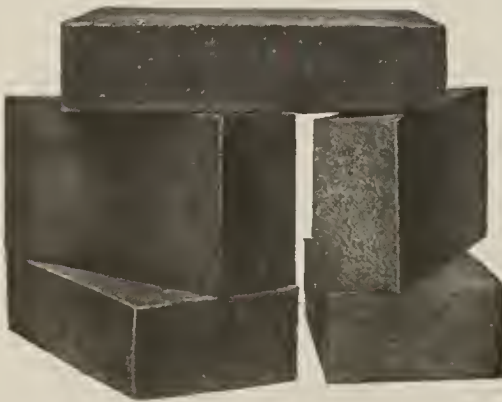
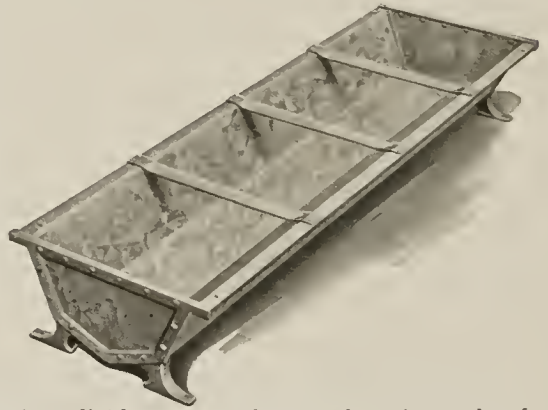
(PATENT APPLIED FOR)

Clean water and sanitary feed are necessary for the good health of hogs. The James Hog Trough is easy to clean and easy to keep clean. It is so designed that the hogs may get all the liquid. If any liquid should be left in the trough in cold weather, no damage will be done to the trough because of its V-shaped bottom and flaring sides, for the expansion of the forming ice will be upward and not against the sides.

The trough is built of 18-gauge galvanized sheet steel, ends are lock seamed, with reinforcing plates on the corners; angle iron dividers across the trough at intervals of 12 in., riveted to the galvanized sheets. These angle iron dividers are so strong that a man can stand on them without bending them; they not only give the trough great rigidity and strength so that it cannot wrack, but they also separate the hogs, keeping any one hog from monopolizing the entire trough. Hogs can't tip the trough.

The legs and end frame of the trough are of best malleable, fastened to the trough with heavy rivets.

The James Trough is the most economical trough to buy, as it costs but little more than a wooden trough and will outlast many built of wood.



## Cork Brick Flooring

Cork Brick makes an excellent floor in the hog pen, or as the floor for the sleeping quarters.

Concrete is cold, which is bad for the little pigs. Wood is not sanitary.

Cork brick, however, is thoroughly sanitary, warm to the touch, easy under foot, not slippery, wet or dry, durable in service and easy to install.

Cork Brick consists of finely granulated cork and refined asphalt, heated and thoroughly mixed, then molded under pressure into brick form. They are laid flat

and four will cover exactly one square foot of surface.

Cork Brick is non-absorbent and easy to keep clean. The materials of which they are composed—cork and asphalt—are both practically non-absorbent. The pressure to which the brick is subjected in the process of manufacture is sufficient to eliminate all voids, air holes, etc.

Even when submerged in water for three days a cork brick absorbs less than 2 per cent by weight—a percentage so small as to be practically negligible. In making this test, all six surfaces of the brick were in contact with water, whereas in actual service only the top is exposed.

The joints in a cork brick floor are tight, being sealed with Portland cement. They remain sealed because the brick does not contract or expand appreciably within ordinary ranges of temperature. The surface of the cork brick floor is smooth, but not slippery, and it can, therefore, be quickly and thoroughly cleaned. Urine and manure do not affect it in the least.

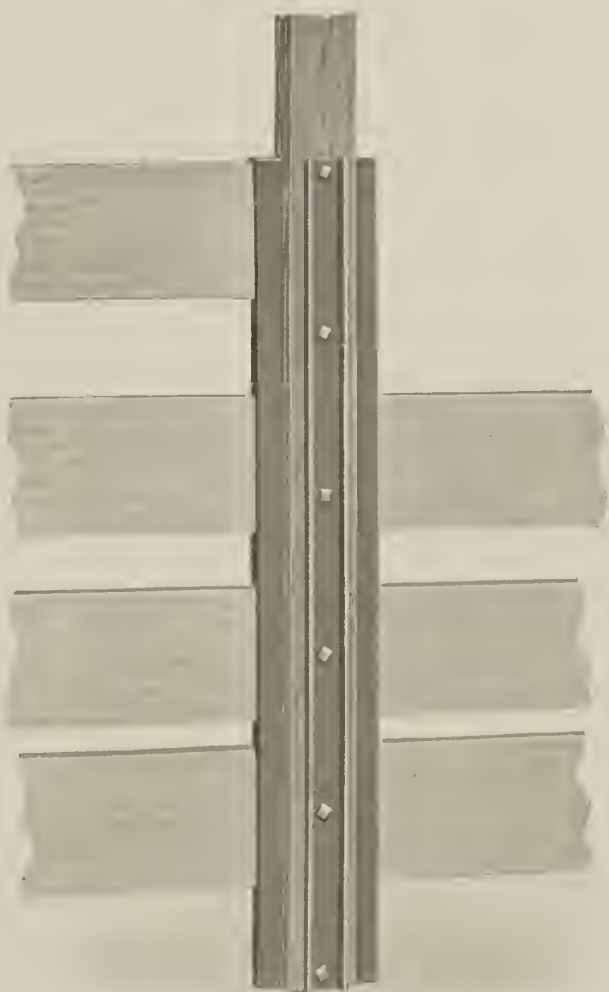
Cork brick is warm to the touch. Cork itself is an excellent non-conductor of heat. That is the reason it is employed so extensively as a packing around ice boxes and for the insulation of cold storage rooms. Cork brick consists chiefly of finely ground cork—70% by volume. This accounts for the fact that a cork brick floor is four times more effective as a protection against cold than a concrete or damp wood floor of the same thickness.

Cork brick is not slippery — wet or dry. Friction clutches for automobiles, elevators and other machinery are often made of cork. It is no wonder, therefore, that cork brick floors always give a good foothold — wet or dry.

## Steel Channels for Wood Pens

To be attached to wood posts.

The use of these channels makes it possible to easily and quickly remove the plank partitions should that at any time be desirable. size 2" by 1½" No. 12 gauge, any length required.





## The James Composition Columns

The James Composition Columns overcome all the objections to the old-style wood columns. They have strength with neatness—the wood columns to have equal strength must be three times the size.

Light in the hog barn is of the greatest importance—for light kills disease germs; it is the best disinfectant. The heavy wood supporting columns tend to keep the light out; James columns, because of the smaller size, let the daylight in.

The wood columns collect dust—the cracks and rough surfaces offering refuge to countless germs. The surface of the James columns is a smooth enamel coat—no place for dust and germs. If necessary, easily disinfected.

The appearance of the James columns harmonizes with modern steel pens; the cost of the columns is justified for appearance's sake alone.

The saving in space by the use of the James columns is very considerable. The James columns so fit in with the pens that no room is lost, nor any discomfort caused the animals. The  $3\frac{1}{2}$ -inch James column, for example, has a safe carrying capacity equivalent to an oak or a yellow pine post 5 in. x 5 in., or a white pine post 6 in. square.

The  $3\frac{1}{2}$ -inch James column has a cross section of 11 inches as compared with 25 square inches cross section of the oak or yellow pine post and 36 square inches of the white pine post.



James Sunny Hog Barn, on farm of Mr. F. C. Bunte at Barrington, Ill. Note use of James Columns.

From this it will be seen that the James column of equal strength takes about  $1\frac{1}{3}$  the space occupied by the wood column. At the same time, the James column has less than half the surface of a wooden column of equal strength, which is an item worth consideration when it comes to painting or cleaning.

Wood columns set on cement floor oftentimes rot out in three or four years. The frequent replacement of wood columns under these conditions makes the James columns cost far less in the long run.

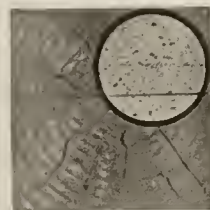
When arranging your floor plan, it is important that the supporting columns be correctly spaced. Otherwise, the location of the columns, whether of wood or of steel, may interfere seriously when you come to put in pens. If you will write us, we will tell you how best to locate the supporting columns in your barn. State inside dimensions of the stable and number of animals to be provided for.

James Composition Columns are made up of new hot rolled, seamless, high-pressure boiler tube, straight and clean as a new gun barrel. They are filled with a secret formula, the main ingredients of which are red granite, torpedo washed sand and Portland cement.

Beware of columns not properly filled. Concrete shrinks in hardening and tends to leave a slight space next to the steel shell, weakening the strength of the column. The James process of filling the columns offsets this shrinking tendency, as well as avoiding air pockets and sponginess, which would give rust a chance to attack the column from the inside.

Prices on James Columns should not be compared with columns made from inferior materials; or from second-hand boiler tubes, because of the danger of such tubes having rusted thin in spots.

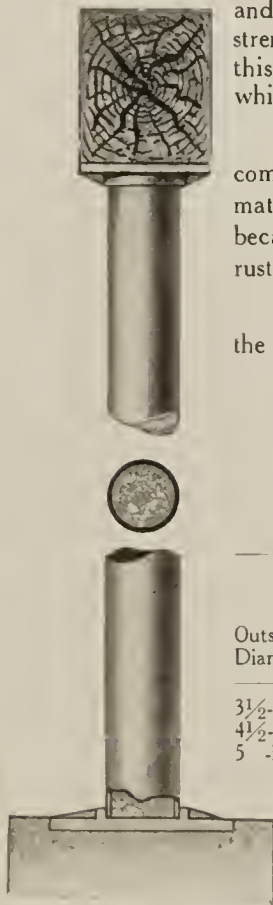
Furnished regularly in the sizes given in the following table:



Comparison of space occupied by 6 x 6 white pine post and a James column of same weight carrying capacity.

Table of James Columns, their Capacities and  
Equivalents in Wood Columns

Outside Diameter	Safe carrying capacity in tons of James Steel Columns					EQUIVALENT TO		
	6 Ft. Length Tons	7 Ft. Length Tons	8 Ft. Length Tons	8½ Ft. Length Tons	9 Ft. Length Tons	White Pine	Yellow Pine	Oak
3½-in.	9	8½	8¼	8	7½	6x 6 in.	5x5 in.	5x5 in.
4½-in.	14	13½	13	12¾	12½	8x 8 in.	6x8 in.	6x8 in.
5 -in.	20¼	20	19½	19¼	19	8x10 in.	8x8 in.	8x8 in.



# Our Golden Rule Guarantee

**We Guarantee** *not only the quality of material and workmanship, but complete satisfaction with the service of the equipment in actual use if our simple instructions are followed.*

*We make this strong guarantee for mutual protection. If there should be a fault in any of our goods, causing dissatisfaction on the part of the buyer, we could not afford to have him keep the equipment.*

*His dissatisfaction would become our loss. We are, therefore, anxious to return the purchase price to any buyer of our goods who is not fully satisfied, if we are at fault in any way.*

*Remember that this guarantee not only covers the quality of material and workmanship; but the demonstration in your own barn must prove our claims of superiority or we want the goods, and you get your money back if you have paid for them.*

**OUR TERMS:** Net Cash. No Discounts.

*This guarantee applies to every equipment, no matter whether purchased from us direct or through our representative. We make it good direct to you in either case.*

JAMES MANUFACTURING CO



*C. P. Goodrich*  
President

*H. H. Curtis*  
Vice-President

*H. D. James*  
Secretary & General Manager



## The James Manufacturing Company

For more than ten years the James Manufacturing Company has been making equipment for the dairy barn. So practical and so efficient has this labor saving equipment proven, that the business has grown, in this brief space of time, to the greatest of its kind in the world. This, too, in the face of intense competition of long established concerns.

Now the James Way—the same practical knowledge of farm needs, the same high standards of quality and workmanship, the same practical inventiveness—has been applied to the solving of problems in the hog barn.

This catalog tells the story of the profit-making labor-saving James Way of caring for hogs—points out how sanitary conditions may be maintained—how work and time can be saved—how losses through old methods of doing the barn work may be stopped.

That you may know something of the Company, and of the men who stand back of the James "Golden Rule" guarantee, we ask you to read the brief history of these men which follows and the statements of the Fort Atkinson Banks presented on the following pages.

The President of the Company, Charles Perry Goodrich, well known especially to dairy men throughout the United States, is one of the few men in America who has received a testimonial from the University of Wisconsin on account of "Services rendered to Agriculture and Related Branches." As President of this Company Mr. Goodrich is still in the work of bettering conditions in agriculture.

He is also Vice-President of the Northwestern Manufacturing Company, known everywhere for their high standing in the manufacture of superior buggies, carriages and furniture.

Mr. H. H. Curtis, our Vice-President, is engaged in large business enterprises and is also in the farming business in a practical way, operating a farm near Fort Atkinson. He is well known at home and abroad as a successful business man in the best sense of the term.

Mr. W. D. James, Secretary and General Manager, was born and raised on a farm; and as boy and man became thoroughly familiar with the business of farming. His genius as an inventor has solved and is solving many of the problems and difficulties of the business, making the life of the average farmer easier and farming profits bigger.

His name is associated inseparably with progress in barn architecture and in methods of handling barn work. He is regarded by leading farmers throughout the country as an authority on barn construction.

From the very first "Service, Merit and Quality" has been the keynote of the business. All the men associated with this Company are in the business with a sincere desire to aid in the upbuilding of agriculture, to help the average farmer improve conditions in his barn and secure greater money rewards for his labor.

# CITIZENS STATE BANK

C. J. WARD, PRESIDENT  
G. W. KINDLIN, VICE PRESIDENT

O. W. DONKLE, CASHIER  
G. E. WARD, ASSISTANT CASHIER

## FORT ATKINSON SAVINGS BANK

CAPITAL \$40,000.00

FORT ATKINSON, WIS.

March 1st, 1914.

To the Public:-

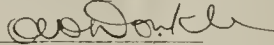
The James Manufacturing Company is one of the most enterprising concerns in our city, and we understand is the largest exclusive barn equipment manufacturer in the world. It was organized a little over seven years ago.

This Company has had a very remarkable growth, a considerable addition to its plant having been required almost every year. It is now doing business throughout the United States and in many foreign countries, and from all sources we hear only words of commendation for the Company, and its methods of business.

The management is well and favorably regarded in our city, and is composed of men of sterling worth, honor and integrity.

Respectfully,

Fort Atkinson Savings Bank.



Cashier.

This bank has fifty farmers as part owners.

THE FIRST

CAPITAL, \$75,000

SURPLUS, \$15,000

THE FIRST NATIONAL BANK

NO. 157  
ORGANIZED 1863

L. W. CARSWELL, PRESIDENT  
J. W. CARSWELL, JR., CASHIER  
J. F. SCHREINER, ASSISTANT CASHIER

FORT ATKINSON, WIS.

March 1st, 1914.

To Whom It May Concern:-

We take pleasure in saying that the James Manufacturing Company is and has been a valued customer of ours since its organization seven years ago.

We are personally acquainted with the directors of the Company, as well as the gentleman in charge of the active management of the business, and we know them to be men who take pride in carrying out their promises and agreements to the letter.

The Secretary and General Manager, Mr. W. D. James, was born and brought up on a dairy farm and has throughout his life been engaged in the dairy business or in business closely related to dairy farming.

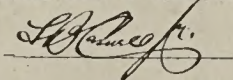
The men managing the business seem to have an unusual understanding of the essentials in the care of dairy cattle; and have a wide reputation as experts in designing sanitary dairy barns.

It is a recognized fact by those who are in position to know that the James Manufacturing Company has done a great work towards bettering the conditions of dairying in general throughout the United States.

We very gladly recommend this Company as reliable and worthy of confidence in every way.

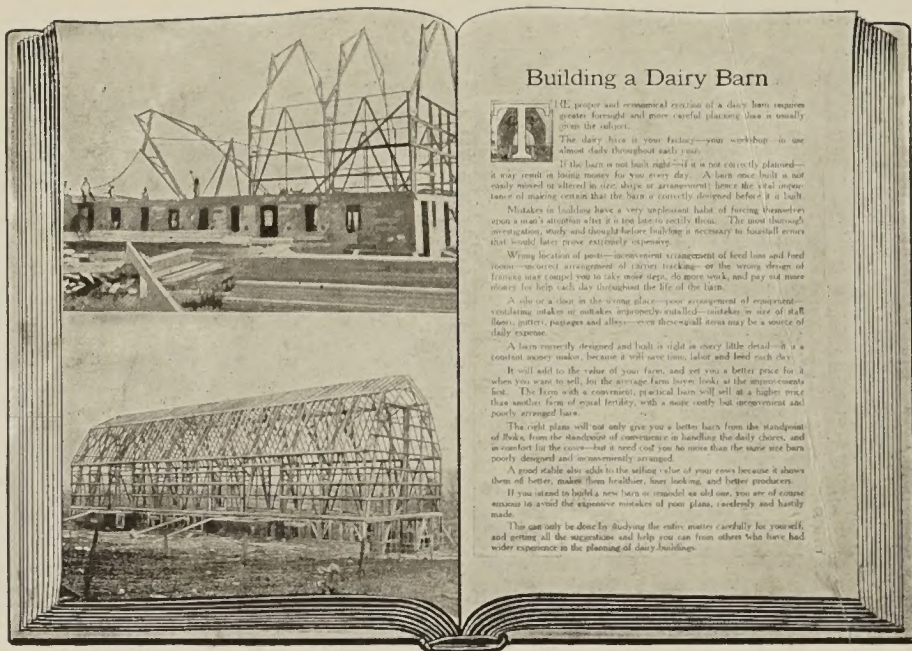
Respectfully yours,

First National Bank of Fort Atkinson.



Cashier.





## The James Way Dairy Barn Book

This book shows how to build and equip a practical, up-to-date dairy barn.

For years, Mr. James and his barn planning experts have made a careful study of dairy barns—not only how they should be equipped—but how they should be constructed, lighted, ventilated and drained—how they should be designed and arranged to be most profitable to the owner.

They have personally visited thousands of dairymen, have inspected their barns and consulted with them regarding the features most essential to a practical dairy stable.

They have talked with tens of thousands of other practical dairymen on the same subject at Dairy Shows and Fairs.

Every year they furnish plans from which are built hundreds of splendid dairy barns and are called upon to solve the barn problems of thousands of other farmers through correspondence and personal consultation in our office.

This book not only gives information regarding the James Barn Equipment, but

speaks fully of the fundamentals of dairy barns; construction of plank frame barns; the best system of ventilation and its installation; proper width and arrangement of barn; lighting; stable floors and their construction; information regarding site, size, appearance, design and drainage, together with a number of barn plans and other information of interest to contractors and farmers who expect to build new dairy barns or remodel old ones.

336 pages, with scores of pictures of barn interiors and exteriors, with many pages of blue prints.

### How to Get the Book

We will send it free postpaid to any dairy farmer who asks for it, providing he tells us how many dairy cows he owns, when he intends to build, remodel or equip a dairy barn.

If you already have this book, tell those of your neighbors who might be interested and how they may obtain it.

# JAMES MANUFACTURING CO.

FT. ATKINSON, WIS.

ELMIRA, N. Y.

CHICAGO

MINNEAPOLIS





